

A man with glasses and a mustache, wearing a dark shirt, is working on a car engine. He is using a Snap-on impact wrench in his right hand and a red probe in his left hand. The background is a dark workshop with red toolboxes. The Snap-on logo is prominently displayed in the center.

Snap-on[®]

QUALITY TOOLS AND SERVICE EQUIPMENT

CATALOG 700

THERE IS A DIFFERENCE[™]

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Kenosha, Wisconsin 53141-1410

Phone: (262) 656-5200

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Snap-on Tools Company LLC ("Snap-on") warrants to customers who purchase tools and equipment from authorized Snap-on distribution channels for use in their profession ("Buyer") that Snap-on® brand products and Blue-Point® brand products will be free from defects in workmanship and materials for a duration described in each product's warranty code. The warranty duration depends upon the nature of the product. If the product information for purchased product does not include a warranty statement with the applicable duration or prior to a product purchase, Buyer can obtain the product warranty code and warranty duration from the selling Snap-on dealer or representative or by writing Snap-on at the address provided at the end of this warranty statement. Consumable products are warranted, at the time of sale, only against defects in workmanship or materials that prevent their use. Consumable products are goods reasonably expected to be used up or damaged during use, including but not limited to drill bits, saw blades, grinding discs, sanding discs, knife blades, files, O2 sensors and batteries. This warranty only extends to the original Buyer and cannot be transferred or assigned.

During the applicable duration of the warranty, at its option, Snap-on will repair or replace its products which fail to give satisfactory service due to defective workmanship or materials, or provide a refund by repaying or crediting Buyer with an amount equal to the purchase price of such products. Repair, replacement or refund shall be at the election and expense of Snap-on, and is Buyer's exclusive remedy in place of all other rights and remedies. To obtain warranty service, return products to Snap-on or a Snap-on dealer together with proof of purchase. By repairing or replacing a product, or providing a refund, Snap-on does not waive a claim that a product nevertheless has been subject to abnormal use.

In addition to any limitations outlined in warranty statements provided with the product, Snap-on does NOT provide any warranty for (1) products labeled other than Snap-on or Blue-Point or (2) products subjected to "abnormal use". Products that are not labeled Snap-on or Blue-Point are

subject to the warranty provided by the manufacturers of those products and Snap-on will pass along any such warranties. "Abnormal use" includes misuse, accident, modification, unreasonable use, abuse, neglect, lack of maintenance, use in product-related service, or use after the product is significantly worn. Abnormal use of tool storage units also includes, without limitation, situations when a unit is pulled using a mechanical vehicle, rolled over large drops, used in a highly corrosive environment, used as a step stool, modified with non-Snap-on parts, overloaded or modified in any way.

THE FOREGOING WARRANTY IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES NOT EXPRESSLY SET FORTH HEREIN, WHETHER EXPRESS OR IMPLIED BY OPERATION OF LAW OR OTHERWISE, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

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To the extent allowed by applicable law, this warranty and all rights and obligations hereunder, including matters of construction, validity and performance, shall be governed by the substantive laws of the State of Wisconsin, without giving effect to the principles of conflicts of law thereof.

Snap-on Tools Company LLC
Professional Use Warranty Information Center
2801 80th Street
Kenosha, Wisconsin 53143

Consumer Warranty Information

When product is purchased for personal use, product warranty information can be obtained by sending a written request, including the catalog number, page number and a description of the products, to:

Snap-on Tools Company LLC
Consumer Warranty Information Center
2801 - 80th Street
Kenosha, Wisconsin 53143

Your Safety Is Important To Us

Personal safety and the proper use of tools and equipment are reflected in safety statements found throughout this catalog. More safety precautions for these products are detailed on pages M1 - M4. Using the right tool and using it properly for the job it is designed for are both very important. It will help to safeguard the user as well as the tools and equipment.

Important Notice

We reserve the right to make changes in design or construction at any time without incurring any obligation in incorporating such changes in tools or equipment previously sold. We also reserve the right to discontinue the manufacture or offering for sale through Snap-on dealers of any tools or equipment at such time as we consider necessary.

We cannot accept the responsibility for the results of using tools which have been abused or badly worn, such as punches and chisels mushroomed by hammer blows, or the incorrect use of tools, or tools repaired by others.

Tool Dimension Accuracy

Dimensions shown in this catalog have been rounded to the nearest fractional size or nearest tenth millimeter and are not exact product specifications. Ask your Snap-on representative for product specifications if required.

ISO 9001:2000 Certified

Snap-on production facilities and merchandised product procurement are certified to ISO 9001:2000.

ISO 14001/OHSAS 18001 Certified

Snap-on Incorporated recognizes the importance of safeguarding our natural resources and global environmental heritage. We believe that environmental goals can and should be consistent with economic health. Therefore, Snap-on production, distribution and repair centers are certified to ISO 14001 and OHSAS 18001. This means that our quality, environmental, health and safety systems and manufacturing processes conform to internationally recognized quality standards as verified by independent audits.

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INSPIRATION

Your inspiration comes in many forms. It may be the problem that has everyone else in the shop scratching their heads. It may be a gorgeous vintage roadster that needs a little extra attention. Or it may just be how Snap-on® tools feel in your hand. Whether it's a comfort handle ratchet, our latest electronic diagnostic equipment or any of the 14,000 items in this catalog, from the moment you pick up one of our tools, you start looking for problems to solve.

We know that being a technician is more than just a job for you. It's a calling. After all, you're not just fixing machines. Your work brings families together, puts food on the table, keeps factories running and improves the quality of lives around the world. And for more than 80 years the tools more technicians trust have worn the Snap-on® name because of our innovative designs, precision manufacturing and our unparalleled customer service. Whenever there's a tough problem to be solved, everyone seems to turn to the guy with the box full of Snap-on® tools.

Snap-on® tools are a reflection of your talent and an investment in your future. We don't take that responsibility lightly. We work closely with vehicle manufacturers to make sure you always have the right tool for the job. And we're constantly looking for new and better ways to keep your productivity high and your reputation even higher. We know that everything rides on your ability to get the job done right.

So the next time you've got a tough problem to solve, pick up your Snap-on® tools and be inspired.

LET'S GO RACING!

Snap-on Racing Raising the Bar on the World's Fastest Growing Sport

Racing.

It's the world's most popular spectator sport, with TV ratings growing faster than any other sport. It's creating a new class of heroes for a new generation of sports fans. And for more than 70 years, Snap-on's been part of the adrenaline rush of racing that everyone now wants to be a part of.

If you're a race fan, you know that nothing beats the sights, sounds and the thrills of race day. At Snap-on, we couldn't agree more. That's why you'll find Snap-on at NASCAR, CART, NHRA, IRL and AMA races every week for those and a lot of other reasons, too.

Why Snap-on Goes Racing

First, we race because what we learn at the track will benefit technicians for years to come. We spend every race weekend with



some of the best racing teams in the world to understand exactly what they need from tools and equipment under extreme race conditions.

Watching how our products perform at the track is one of the best ways to consistently enhance the quality, durability and performance of the tools found in the shops of millions of automotive service technicians and car aficionados.

High-tech diagnostic equipment, including ABS scanners, wheel balancers and aligners, were all originally developed for fast, accurate trackside service. For example, crews needed balancers with high accuracy and portability, but found that high-speed balancers were too bulky. Snap-on responded with a small, easily transported, hand-spun balancer that offered accuracy exceeding that of high-speed balancers.

All that said, we can't deny that there's a fun side of racing, too, a side which lets Snap-on develop new race-themed hand tools, power tools and tool storage units that bear the names and logos of some of the sport's greatest drivers like



Want to put a smile on a crew chief's face? Then you have two choices – a trip to the Winner's Circle or a tool kit filled with Snap-on® Tools.

The products shown are examples of promotional products and may not be available as shown. Ask your Snap-on® representative for current product information.





Dale Earnhardt, Jr., Kevin Harvick, Doug Herbert, Rusty Wallace and Ryan Newman.

Many of the race-themed products can be found only at your local Snap-on Representative, making them some of the most highly sought-after racing products anywhere. Be sure to check with your local Snap-on Representative for availability in your area.

So the next time you see a race team celebrating in Victory Lane, check the tools they use. Chances are the tools that got them to Victory Lane are the same tools that make thousands of technicians so successful, each and every day.

Mid-Season or Off-Season, There's Always Something New at Snap-on Racing

If you haven't talked to your local Snap-on Representative lately about motorsports, you've probably missed an array of exciting new products inspired by the Snap-on racing family.

From the chill of February when the seasons gear-up in Pomona and Daytona, through the dog days of summer when the racing runs full-tilt in all corners of the earth, and even into



Whether it's Doug Herbert battling at Route 66 or Rusty, Dale, Jr. and Kevin going three-wide at Talladega, a look into their tool kits will show that a big part of their success is Snap-on® hand and power tools, tool storage and equipment.



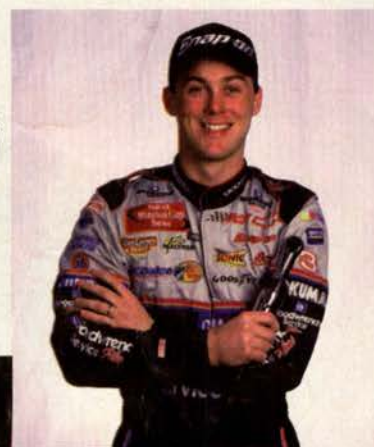
racing's off-season, Snap-on is continually developing new race-themed tool storage, hand tools, power tools and equipment. And for fans of the Snap-on racing family, there's always new apparel suitable for the track or around the house. And don't forget collectibles, some available only through Snap-on Tools and your local Snap-on Representative. Watch for products bearing the names of drivers and race personalities like Doug Herbert, Richard Childress, Ryan Newman, Sterling Marlin, Rusty Wallace, Dale Earnhardt, Jr. and Kevin Harvick.

So whether you're a fan of NASCAR, CART, IRL, NHRA, or the AMA, make sure to check regularly with your Snap-on Representative to see what's new from the Snap-on racing family.

Now, "Let's Go Racing!"



The diversity of Snap-on race-themed products is enough to satisfy even the most demanding race fans. From die-cast cars to race-inspired hand tools and tool storage units celebrating our associations with some of NASCAR's biggest stars, ask your Snap-on Representative for information on currently-available race-themed products.



The products shown are examples of promotional products and may not be available as shown. Ask your Snap-on® representative for current product information.



Set Building U.S. Sets

An Unequal Opportunity

When we introduced our set-building program it revolutionized the industry—for the first time there was a planned way for technicians to build their tool inventories as they developed skills and responsibilities.

The popularity of this program is still growing. It is designed to target the most-used tools in the most-likely progression. And as metric tools become the standard of the service bay, we offer a greatly expanded metric selection with a big set that tops any set available anywhere else.

Ask your Snap-on® representative for more information on how you can build the set you dream of with the right plan.



9100GSBO

U. S. Apprentice Set

9100GSBO Complete Apprentice Set. More than 100 pieces. A well-balanced selection of basic hand tools plus KRA3056 Tool Chest. Includes 9100GS Set and KRA3056 Tool Chest.

9100GSO Apprentice Set. Tools only. More than 100 pieces. A well-balanced selection of basic hand tools.

9100GSM Metric Plus Apprentice Set. This is the 9100GS Set plus the following: AWM110CK Metric Hex Wrench Set (11 pcs), 212FMY Metric 12-Point Socket Set (12 pcs), and OEMX710B Metric 12-Point Combination Wrench Set (10 pcs).



9200GSB

U.S. Set 2

9200GSB Complete U.S. Set 2. More than 200 pieces. Includes all tools in the 9100GS Apprentice Set and 9000GS2 Add-on Group plus KRA4059 Top Chest.

9200AGSO U.S. Set 2. More than 200 pieces. Includes all tools in the 9100GS Apprentice Set and 9000GS2 Add-on Group. Tools only. Packed in display trays that will fit into either KRA59K or KRA63B Top Chest.

9000GS2 U.S. Add-on Group 2. More than 100 pieces.

There is a lot of capability in this expanded set, which is contained in two of our popular tool storage units. (Carry over the Tool Chest from Set 2 and add the Roll Cab.)

U.S. Set 3

9300GSBO Complete U.S. Set 3. More than 300 pieces. Includes all the tools in the 9200AGS Set and the 9000GS3 Add-on Group plus KRA59K Tool Chest and KRA4007A Roll Cab.

9300GSO U.S. Set 3. Tools only. More than 300 pieces. Includes all the tools in the 9200AGS Set and the 9000GS3 Add-on Group.

9000GS3O Add-on Group 3. More than 100 pieces.

9300GSBO



U.S. and metric set cabinetry and components are subject to change and may not be exactly as illustrated. U.S. sets are shown on pages 8 and 9. U.S. set listings are on pages 10 and 11. Metric sets are shown on pages 12 and 13. Metric set listings are shown on pages 14 and 15.

Warning: In the set illustration on this page and following pages, storage unit drawers are shown open for display purposes only. In use, storage unit could tip and cause injury or damage if a number of loaded drawers are extended.

U.S. Sets Set Building

9400GSBO

Here's an impressive set with an excellent variety of tools for general service work. It is contained in our very popular, often copied, KRL731 / KRL756A Combination.

U.S. Set 4

9400GSBO Complete U.S. Set 4. More than 600 pieces. Includes all the tools in the 9300GS Set and the 9000GS4 Add-on Group plus KRL731 Tool Chest and KRL756A Roll Cab.

9400GSO U.S. Set 4. Tools only.

9000GS4O U.S. Add-On Group 4. More than 250 pcs.



U.S. Set 5

9500GSBO Complete U.S. Set 5. More than 800 pieces. Includes all the tools in the 9400GS Set and the 9000GS5 Add-on Group plus KRL751 Tool Chest and KRL756A Roll Cab.

9500GSO U.S. Set 5. Tools only. More than 800 pieces. Includes all the tools in the 9400GS Set and the 9000GS5 Add-on Group.

9000GS5O U.S. Add-on Group 5. More than 150 pieces.



9600GSBO

This set will tell anyone looking that there's a qualified, caring professional working here. You'll wonder what it is that you can't do with this one.

9500GSBO



This is a set you have to see to appreciate. And we have the program to make it yours!

U.S. Set 6

9600GSBO Complete U.S. Set 6. More Than 1000 Pieces. Includes all the tools in the 9500GS Set and the 9000GS6 Add-on Group plus KRL791A Tool Chest and KRL761A Roll Cab.

9600GSO U.S. Set 6. Tools only.

9000GS6O U.S. Add-on Group 6. More than 250 pieces.



WARNING

- Do not open more than one loaded drawer at a time.
- Keep children away.
- Close lid, lock drawers and doors before moving.
- Apply brakes on locking casters when not moving unit.
- Do not step in or on drawers.
- Secure units together with fasteners.
- Do not pull; push to move.
- Wear gloves when lifting by edges.
- Keep feet and fingers clear of edges when stacking, hanging, or moving units.
- Read additional safety precautions on pages M1 to M4.



Set Building U.S. Set Listings

9100GSBO Complete Apprentice Set. More than 100 pieces. A well-balanced selection of basic hand tools plus KRA3056 Tool Chest. Includes 9100GSO Set and KRA3056 Tool Chest.

9100GSO Apprentice Set.

Stock No.	Description	Page
114ATMP	1/4" Dr. General Service Set, 6-Point (14 pcs.)	75
F936	3/8" Dr. Sealed Head Ratchet	92
206EAU	3/8" Dr. Adaptor/Extension Set, (6 pcs.)	95
211FSY	3/8" Dr. Socket Set, 6-Point (11 pcs.)	97
211SFSY	3/8" Dr. Deep Socket Set, 6-Point (11 pcs.)	98
317MSPC	1/2" Dr. General Service Set, 6-Point (17 pcs.)	116
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CSA8C	Carbon Scraper	297
GAC1580	Chemical Splash Goggles	E142

9200GSB Complete U.S. Set 2. More than 200 pieces. Includes all tools in the 9100GSO Apprentice Set and 9000GS2 Add-on Group plus KRA4059 Tool Chest.

9000GS2 Add on Group

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TMXK60	1/4" Dr. Extension, 6"	79
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110STMY	1/4" Dr. Deep Socket Set, 6-Point (10 pcs.)	81
212EFTXY	1/4" and 3/8" Dr. TORX® Driver Set, (12 pcs.)	85
FLF936	3/8" Dr. Flex-Handle Sealed Ratchet	92
A1MF	1/2" and 3/8" Adaptor	95
FXK11	3/8" Dr. Extension, 11"	96
212FSMY	3/8" Dr. Metric Shallow Skt. Set, 6-Point (12 pcs.)	97
212SFSMY	3/8" Dr. Metric Deep Skt. Set, 6-Point (12 pcs.)	99
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OEX32B	Std. Length Combination Wrench 1"	149
OEXM710B	Metric Combination Wrench Set, (10 pcs.)	150
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9300GSBO Complete U.S. Set 3. More than 300 pieces. Includes all the tools in the 9200AGSO Set and the 9000GS30 Add-on Group plus KRA4059 Tool Chest and KRA4007A Roll Cab

9000GS30 Add-on Group

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9000GS30 Add-on Group (continued)

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309SIMYLM	1/2" Dr. Deep Impact Skt. Set, 6-Point (9 pcs.)	130
310SIMMYLM	1/2" Dr. Met. Deep Imp. Skt. Set, 6-Point (10 pcs.)	130
IP80C	1/2" Dr. Impact Universal Joint	132
OEXM6B	Metric Short Combination Wr., 12-Point 6mm	151
OEXM7B	Metric Short Combination Wr., 12-Point 7mm	151
OEXM8B	Metric Short Combination Wr., 12-Point 8mm	151
OEXM9B	Metric Short Combination Wr., 12-Point 9mm	151
RXFMS606B	Metric Double End Flare Nut Wr. Set, (6 pcs.)	164
IM5100	1/2" Dr. Air Impact Wrench	222
JT13	Blow Gun	248
GA3000A	Ear Protectors	E141
QD3R250	1/2" Dr. Torque Wrench, 50-250 ft. lb.	266
SPB24A	Prybar with Handle, 24"	287
CK7D	Fender Cover	300
2006IT	Carburetor Adjustment Tool Set (6 pcs.)	E24
AC58C	Wire Brush	E127

9400GSBO Complete U.S. Set 4. More than 600 pieces. Includes all the tools in the 9300GSO Set and the 9000GS40 Add-on Group plus KRL731 Tool Chest and KRL756 Roll Cab.

9000GS40 Add on Group

Stock No.	Description	Page
TA3	1/4" to 3/8" Adaptor	77
TMX1	1/4" Dr. Extension, 1 1/4"	79
TMXK110	1/4" Dr. Extension, Knurled, 11"	79
TM61A	1/4" Dr. Flexible Extension, 6"	79
FL936	3/8" Dr. Long Handle Sealed Ratchet	92
FXK4	3/8" Dr. Extension, 4"	96
FXK8	3/8" Dr. Extension, 8"	96
FX24A	3/8" Dr. Extension, 24"	96
206AFSA	3/8" Dr. Universal Socket Set, 6-Point (6 pcs.)	99
206FSUMA	3/8" Dr. Metric U Socket Set, 6-Point (6 pcs.)	100
210FRHM	3/8" Dr. Metric Crowfoot Wrench Set (10 pcs.)	166
207SFRH	3/8" Dr. Metric Crowfoot Wrench Set (7 pcs.)	166
SX2	1/2" Dr. Extension, 2"	120
SN24C	1/2" Dr. Breaker Bar, 24"	120
313TSYA	1/2" Dr. Deep Socket Set, 6-Point (13 pcs.)	122
OEX10B	Combination Wrench, 12-Point, 5/16"	149
OEX34B	Combination Wrench, 12-Point, 1 1/16"	149
OEX36B	Combination Wrench, 12-Point, 1 1/8"	149
OEX40B	Combination Wrench, 12-Point, 1 1/4"	149
OEXM200B	Metric Combination Wrench, 12-Point 20mm	150
OEXS709B	Short Combination Wrench Set, 12-Point (9 pcs.)	151
OEXM210B	Metric Combination Wrench, 12-Point, 21mm	150
OEXM220B	Metric Combination Wrench, 12-Point, 22mm	150
OEX080B	Short Combination Wrench, 12-Point, 1/4"	151
OEXSM710B	Metric Short Comb. Wr. Set, 12-Point (10 pcs.)	151
AD8	Adjustable Wrench, 8"	174
SGDX40	Mini-Tip Screwdriver Set, (4 pcs.)	187
SSM5A	Fiat Tip Screw Starter	195
AWP160	Adjustable Joint Pliers, 16 3/4" long.	205
61ACP	Duck Bill Pliers	202
388BCP	High Leverage Cutters	204
SRPC105	Retaining Ring Pliers Set, (5 pcs.)	208
VGP12107	Locking Pliers, 7"	206
1250	Prybar, 12"	287
SPB18A	Prybar w/Handle, 18"	287
PPC3A	Center Punch, 1/8"	284
PPC5A	Punch/Chisel Holder	284
PPC104A	Pin Punch, 1/8"	284
PPC108A	Pin Punch, 1/4"	284
PPC204A	Starter Punch, 1/8"	284
PPC208A	Starter Punch, 1/4"	284
PPB1012	Bronze Tapered Punch, 3/8"	285
HBFE32	Dead Blow Hammer, 32 oz.	282
BP24B	Ball Peen Hammer, 24 oz.	283
HBB32	Dead Blow, Ball Peen Hammer, 32 oz.	282
PK100	Utility Knife	294
SGHBF500	File Set with Handles (4 pcs.)	288
JC23C	Crepper	299
TD2425	Tap and Die Set (41 pcs.)	316
TDM117A	Metric Tap and Die Set (41 pcs.)	317
CJ2001	Bolt Grip Puller Set	332
E1020	Extractor Set, 20 pcs.	336
CSA12C	Carbon Scraper	297
TF528D	Tube Cutting and Double Flaring Set	345
CP3B	Cotter Pin Puller, 8" long	E74

U.S. Set Listings Set Building

9500GSBO Complete U.S. Set 5. More than 800 pieces. Includes all the tools in the 9400GSO Set and the 9000GS50 Add-on Group plus KRL751 Tool Chest and KRL756 Roll Cab.

9000GS50 Add on Group

Stock No.	Description	Page
FBF936	3/4" Dr. Bent Flex-Handle Sealed Ratchet	92
FK936	3/4" Dr. Stubby Handle Sealed Ratchet	92
F12LA	3/4" Dr. Breaker Bar	95
212IMFYLM	3/4" Dr. Impact Socket Set, 6-Point (12 pcs.)	111
214IMFYLM	3/4" Dr. Metric Impact Skt. Set, 6-Point (14 pcs.)	111
212SIMFYLM	3/4" Dr. Deep Impact Socket Set, 6-Point (12 pcs.)	112
214SIMFYLM	3/4" Dr. Metric Deep Impact Sockets, 6-Point (14 pcs.)	112
IPF800A	3/4" Dr. Impact Universal Joint	115
SF936	1/2" Dr. Long Flex-Handle Sealed Ratchet	118
313TSMYA	1/2" Dr. Metric Deep Socket Set, 6-Point (13 pcs.)	123
315IMMYLM	1/2" Dr. Metric Impact Socket Set, (15 pcs.)	129
315SIMMYLM	1/2" Dr. Metric Deep Impact Socket Set (15 pcs.)	130
OEX8B	Combination Wrench, 12-Point, 1/4"	149
OEX11B	Combination Wrench, 12-Point, 1 1/2"	149
OEX38B	Combination Wrench, 12-Point, 1 3/16"	149
OEX42B	Combination Wrench, 12-Point, 1 5/16"	149
OEXM90B	Metric Standard Combination Wr., 12-Point, 9mm	150
OEXM230B	Metric Standard Combination Wr., 12-Point, 23mm	150
OEXM240B	Metric Standard Combination Wr., 12-Point, 24mm	150
OEX260B	Short Combination Wrench, 12-Point, 1 3/16"	151
OEX280B	Short Combination Wrench, 12-Point, 7/8"	151
OEX300B	Short Combination Wrench, 12-Point, 1 1/16"	151
OEX320B	Short Combination Wrench, 12-Point, 1"	151
OXI8B	Midget Combination Wrench, 12-Point, 1/4"	153
OXI10B	Midget Combination Wrench, 12-Point, 5/16"	153
OXI12B	Midget Combination Wrench, 12-Point, 3/8"	153
OXI706B	Midget Combination Wrench Set (6 pcs.)	153
OXM7B	Metric Midget Combination Wr., 12-Point, 7mm	153
OXM8B	Metric Midget Combination Wr., 12-Point, 8mm	153
OXM9B	Metric Midget Combination Wr., 12-Point, 9mm	153
OXM710B	Metric Midget Comb. Wr. Set, 12-Point (10 pcs.)	153
XB605A	Offset Box Wrench Set (5 pcs.)	155
XBM605A	Metric Box End Wrench Set, 12-Point (5 pcs.)	155
VS807B	Open End Wrench Set (7 pcs.)	162
AD10	Adjustable Wrench, 10"	174
SDDP620	PHILLIPS® Tip Screwdriver, #2	188
SDDP63	PHILLIPS® Tip Screwdriver, #3	188
SGDP162	PHILLIPS® Tip Screwdriver, #2	188
SGDMRC11	Ratcheting Screwdriver	192
SDM400A	Screwdriver Bit Kit, (37 pcs.)	196
AWP120	Adjustable Joint Pliers, 12 3/4"	205
196BCP	Needle Nose Pliers with Side Cutter, 7 1/8"	202
497CCP	Needle Nose Pliers (90° Angle Jaw) 6 5/8"	202
PWC14	Wire Stripper/Cutter/Crimper/Bolt Cutter, 8 3/4"	217
IM31	3/8" Dr. Air Impact Wrench, 30-135 ft. lb.	224
FAR72B	3/8" Dr. Air Ratchet 5-60 ft. lb.	226
QD2R100	3/8" Dr. Adj. Click-type Torque Wrench 20-100 ft. lb.	266
650	Prybar, 6"	287
SPB12A	Prybar with Handle, 12"	287
PPC110A	Pin Punch, 5/16"	284
PPC112	Pin Punch, 3/8"	284
PPC210A	Starter Punch, 5/16"	284
PPC824A	Flat Chisel, 3/4"	284
PPC828A	Flat Chisel, 7/8"	284
C2201A	Kit Bag for Punches and Chisels (PPC210AK Set)	284
HBT24	Bronze Tip Hammer, 24 oz.	282
BP8B	Ball Peen Hammer, 8 oz.	283
RTD48	Rethreading Kit	312
CJ2002	Bar-Type Gear Puller Set	332
PT28E	Pick-up Tool	291
TC123C	Tube Cutter	345
S9704KFUA	3/8" Dr. Spark Plug U Socket, 1 3/16"	347
S9706KFUA	3/8" Dr. Spark Plug U Socket, 5/8"	347

9600GSBO Complete U.S. Set 6. More Than 1000 Pieces. Includes all the tools in the 9500GSO Set and the 9000GS60 Add-on Group plus KRL791A Tool Chest and KRL761A Roll Cab.

9000GS60 Add On Group

Stock No.	Description	Page
106ATMXWP	1/4" Dr. Wobble Extension Set (6 pcs.)	79
106TMUSA	1/4" Dr. Universal Socket Set, 6-Point (6 pcs.)	82
110ETMAY	1/4" Dr. Hex Driver Set (10 pcs.)	84
IMTM8A	1/4" Dr. Shallow Impact Socket, 6-Point 1/4"	87
IMTM10A	1/4" Dr. Shallow Impact Socket, 6-Point 5/16"	87
IMTM12A	1/4" Dr. Shallow Impact Socket, 6-Point 3/8"	87
IMTM14A	1/4" Dr. Shallow Impact Socket, 6-Point 7/16"	87
IMTM16A	1/4" Dr. Shallow Impact Socket, 6-Point 1/2"	87
IMTM18A	1/4" Dr. Shallow Impact Socket, 6-Point 9/16"	87
112IMTMMY	1/4" Dr. Metric Impact Socket Set, 6-Point (12 pcs.)	87
FX18	3/8" Dr. Extension, 18"	96
FX36	3/8" Dr. Extension, 36"	96
206AFXW	3/8" Dr. Wobble Extension Set, (6 pcs.)	96
FS12B	3/8" Dr. Universal Socket, 6-Point 3/8"	99
FSUM11A	3/8" Dr. Metric Universal Socket, 6-Point 11mm	100
FSUM16A	3/8" Dr. Metric Universal Socket, 6-Point 16mm	100
FSUM18A	3/8" Dr. Metric Universal Socket, 6-Point 18mm	100
FSUM19A	3/8" Dr. Metric Universal Socket, 6-Point 19mm	100
207IPFY	3/8" Dr. Swivel Impact Socket Set, 6-Point (7 pcs.)	114
SX15	1/2" Dr. Extension, 15"	120
TW381	1/2" Dr. Socket, 6-Point 1 3/16"	121
TW401	1/2" Dr. Socket, 6-Point 1 1/4"	121
TW421	1/2" Dr. Socket, 6-Point 1 5/16"	121
TW441	1/2" Dr. Socket, 6-Point 1 3/8"	121
TW461	1/2" Dr. Socket, 6-Point 1 7/16"	121
TW481	1/2" Dr. Socket, 6-Point 1 1/2"	121
TWM25	1/2" Dr. Metric Socket, 6-Point 25mm	122
TWM26	1/2" Dr. Metric Socket, 6-Point 26mm	122
TWM27	1/2" Dr. Metric Socket, 6-Point 27mm	122
TWM30	1/2" Dr. Metric Socket, 6-Point 30mm	122
TWM32	1/2" Dr. Metric Socket, 6-Point 32mm	122
TS381	1/2" Dr. Deep Socket, 6-Point 1 3/16"	122
TS401	1/2" Dr. Deep Socket, 6-Point 1 1/4"	122
TS421	1/2" Dr. Deep Socket, 6-Point 1 5/16"	122
305IPLY	1/2" Dr. Impact Swivel Socket Set, 6-Point (5 pcs.)	131
OEX44B	Combination Wrench, 12-Point 1 3/8"	149
OEX46B	Combination Wrench, 12-Point 1 7/16"	149
OEX48B	Combination Wrench, 12-Point 1 1/2"	149
XO605	Offset Box Wrench Set, 12-Point (5 pcs.)	156
RB604	Ratcheting Box Wrench Set, 12-Point (4 pcs.)	158
R810B	Ratcheting Box Wrench, 12-Point 1/4"-5/16"	158
VS26B	Open End Wrench, 1 3/16"	162
VS28B	Open End Wrench, 7/8"	162
VS30B	Open End Wrench, 1 1/16"	162
VS32B	Open End Wrench, 1"	162
RXS605B	Flare Nut/Open End Wrench Set, 6-Point (5 pcs.)	164
AD6	Adjustable Wrench, 6"	174
SDTX3150	T15 TORX® Screwdriver	190
SDTX3200	T20 TORX® Screwdriver	190
CM6551	Miniature Screwdriver Set (5 pcs.)	191
020A	Offset Flat Tip Screwdriver, .025 x 1/4"	191
030A	Offset Flat Tip Screwdriver, .030 x 5/16"	191
012C	Offset PHILLIPS® Screwdriver, #1 and #2	191
NDD1070A	Nut Driver Set, 6-Point, (7 pcs.)	199
AWP45	Adjustable Joint Pliers, 4 3/4"	205
AWP65	Adjustable Joint Pliers, 7"	205
CHN480	Adjustable Joint Pliers, 20"	205
VGP12105	Locking Pliers, Curved Jaw with Cutter, 5"	206
VGP12706	Locking Long Nose Pliers, 6"	206
E704ACG	Electronic 45° Angle Needle Nose Pliers	212
E712CG	Electronic Needle Nose Pliers	212
E710ACG	Electronic Cutters	213
FAR25	1/4" Dr. Air Ratchet	228
PDR3A	3/8" Capacity Air Drill	229
DBTR129	Drill Bit Set, 29 Bits	260
2050	Prybar, 20"	287
SPB8A	Prybar with Handle, 8"	287
PPR708K	Roll Pin Punch Set, (8 pcs)	285
HBFE48	Dead Blow Hammer, 48 oz.	282
BP12B	Ball Peen Hammer, 12 oz.	283
HBFI100	Mixed File Set, (6 pcs.)	288
TD9902A	Tap and Die Set, (25 pcs.)	316
CJ2003A	Rear Axle Puller Set	332
CJ2004	Interchangeable Puller Set	332
CJ2005	Puller Accessory Set	332
KRA276D	Wall Cabinet	59
VE200A	Tool Control Board	332

U.S. and metric set cabinetry and components are subject to change and may not be exactly as illustrated. U.S. sets are shown on pages 8 and 9. U.S. set listings are on pages 10 and 11. Metric sets are shown on pages 12 and 13. Metric set listings are shown on pages 14 and 15.

Set Building Metric Sets



9100GMBO

A basic set for the starting technician.

9100GMBO Complete Set A —More Than 150 Pieces

Includes a basic selection of ratchets, sockets, wrenches, screwdrivers, pliers, and accessories. Includes tools in 9100AGMO Set plus KRA4059 Tool Chest (illustrated on page 51).

9100AGMO Set A. Tools only.



9200GMBO

The second step and an excellent way to add a Roll Cab and Tools as your responsibilities grow.

9200GMBO Complete Set B —More Than 400 Pieces

Includes all tools in 9100AGMP Set and 9000GM2 Add-on Group plus KRA59K Tool Chest and KRA4007B Roll Cab (illustrated on page 46).

9200GMO Set B. Tools only.

9000GM20 Add-on Group (to Set A). More than 200 pieces.



Warning: In the set illustration on this page and following pages, storage unit drawers are shown open for display purposes only. In use, storage unit could tip and cause injury or damage if a number of loaded drawers are extended.

Metric Set Building

9300GMBO

With a planned program, anyone can own this complete, matched set, designed for technicians specializing on late-model vehicles.

9300GMBO Complete Set C — More Than 600 Pieces

Includes all tools in 9200GMO Set and 9000GM30 Add-on Group plus KRL731 Tool Chest and KRL756A Roll Cab.

9300GMO Set C. Tools only.

9000GM30 Add-on Group (to Set B). More than 200 pcs.



It's not just a dream, it can be yours—a complete, beautiful Snap-on® set that lets you reach your potential.

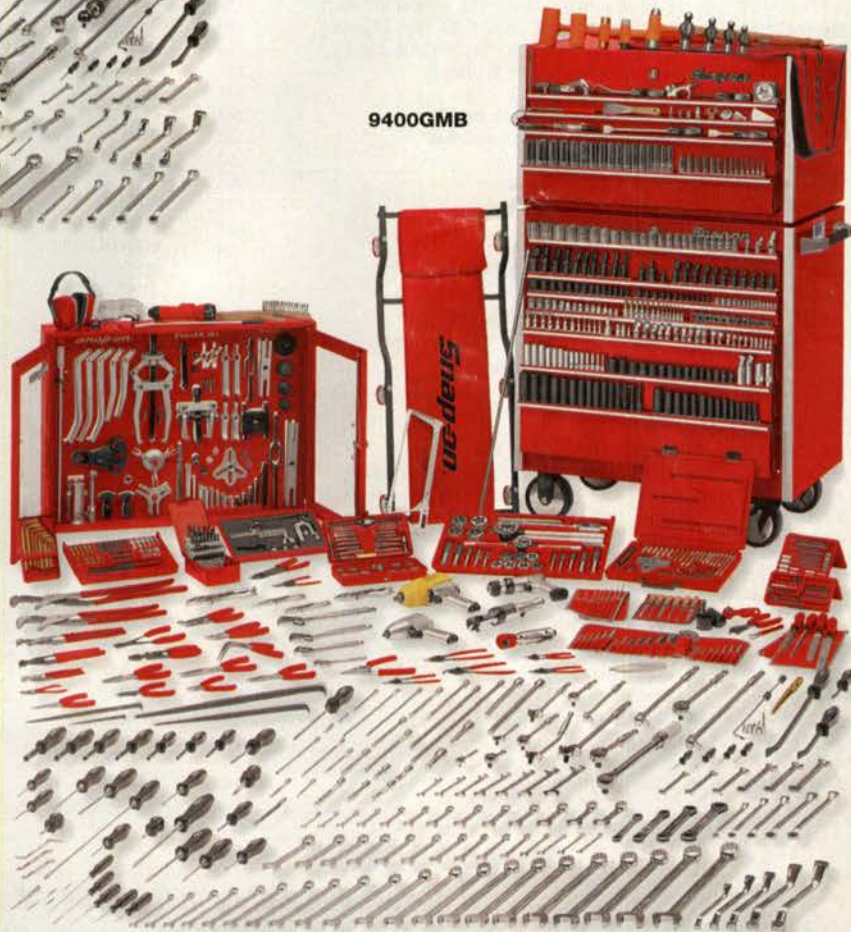
9400GMBO Complete Set D — More Than 800 Pieces

Includes all tools in 9300GMO Set and 9000GM40 Add-on Group plus KRL751 Tool Chest and KRL756A Roll Cab.

9400GMO Set D. Tools only.

9000GM40 Add-on Group (to Set C). More than 175 pcs.

U.S. and metric set cabinetry and components are subject to change and may not be exactly as illustrated. U.S. sets are shown on pages 8 and 9. U.S. set listings are on pages 10 and 11. Metric sets are shown on pages 12 and 13. Metric set listings are on pages 14 and 15.



9400GMB

WARNING

- Do not open more than one loaded drawer at a time.
- Keep children away.
- Close lid, lock drawers and doors before moving.
- Apply brakes on locking casters when not moving unit.
- Do not step in or on drawers.



- Secure units together with fasteners.
- Do not pull; push to move.
- Wear gloves when lifting by edges.
- Keep feet and fingers clear of edges when stacking, hanging, or moving units.
- Read additional safety precautions on pages M1 to M4.

See Warranty Information on inside front cover.

Set Building Metric

9100GMBO Complete Set A

Includes tools in 9100AGMO Set plus KRA4059 Tool Chest (illustrated on page 51).

9200GMBO Complete Set B

Includes 9100AGMO Basic Set and 9000GM20 Add-on Group plus KRA4059 Top Chest and KRA4007B Roll Cab (illustrated on page 42).

9100AGMO Metric Basic Set A

Stock No.	Description	Page
117TMM	1/4" Dr. Metric Starter Set (17 pcs.)	74
TM4CSA	1/4" Dr. Shank Driver	78
TMXK60	1/4" Dr. Extension, 6" long	79
113STMMY	1/4" Dr. Metric Deep Skt. Set, 6-Point (13 pcs.)	82
212EFTXY	3/8" and 1/4" Dr. TORX® Driver Set (12 pcs.)	85
F936	3/8" Dr. Sealed Ratchet	92
FLF936	3/8" Dr. Flex-Head Sealed Ratchet	92
206EAU	3/8" Dr. Adaptor Set (6 pcs.)	95
FXK11	3/8" 8" Dr. Extension, 11" long	96
A1MF	Adaptor, 1/2" to 3/8"	95
212FSMY	3/8" Dr. Metric Socket Set, 6-Point (12 pcs.)	97
212SFSMY	3/8" Dr. Metric Deep Skt. Set, 6-Point (12 pcs.)	99
317AMMPC	1/2" Dr. Metric Gen. Serv. Set, 6-Point (17 pcs.)	117
OEXM710B	Metric Combination Wr. Set, 12-Point (10 pcs.)	150
RXFMS606B	Metric Flare Nut Wrench Set, 6-Point (6 pcs.)	164
AWM110BHK	Metric Hex Wrench Set (11 pcs.)	173
AD12	Adjustable Wrench, 12" long	174
SGDX80	Combination Screwdriver Set (8 pcs.)	182
SGDMRC103	Ratcheting Magnetic Screwdriver	193
PL300ACP	Pliers/Cutters Set (3 pcs.)	202
91ACP	Adjustable Joint Pliers	205
97CCP	Needle Nose Pliers	202
PRC36	Retaining Ring Pliers	209
VGP12110	Locking Pliers, 10" long	206
PWC6	Wire Stripper/Cutter Pliers	217
1650	Prybar, 16" long	287
PPC710A	Punch and Chisel Set (11 pcs.)	284
HPT16	Plastic Tip Hammer, 16 oz.	282
BP16B	Ball Peen Hammer, 16 oz.	283
HS18A	Hacksaw	293
SGASA204	Hook/Awl Set	298
ECF1B	Flashlight	301
YASGMM154	Metric Tape Rule, 5 Meter	309
FB316B	Ignition/Spark Plug Gauge Set (18 blades)	310
FBM320	Metric Feeler Gauge Set (20 blades)	310
FB360C	Feeler Gauge Set (6 blades)	311
FB361A	Gapper Gauge	311
GA295	Mirror	290
PT5B	Telescopic Pick-up Tool	291
CSA8C	Carbon Scraper	297
PK53	Scraper	296
S9704KA	3/8" Dr. Spark Plug Socket, 13/16"	347
S9706KA	3/8" Dr. Spark Plug Socket, 5/8"	347
CT4G	Circuit Tester	E17
2004BSKA	Battery Service Kit (4 pcs.)	E34
SGA173	Radiator Hose Tool	E37
AC5A	Wire Brush	E127
GAC1580	Safety Goggles	E142

9000GM20 Add-on Group

Stock No.	Description	Page
TF936	1/4" Dr. Flex-Head Sealed Ratchet	76
TA3	1/4" to 3/8" Dr. Adaptor	77
TMX1	1/4" Dr. Extension, 1" long	79
TMXK140	1/4" Dr. Extension, 14" long	79
FL936	3/8" Dr. Long Handle Sealed Ratchet	92
FXK4	3/8" Dr. Extension, 4" long	96
FXK8	3/8" Dr. Extension, 8" long	96
FX24A	3/8" Dr. Extension, 24" long	96
206FSUMA	3/8" Dr. Metric U-Socket Set, 6-Point (6 pcs.)	100
210FRHM	3/8" Dr. Met. Flare Nut Wr. Set, 6-Point (10 pcs.)	166
207EFAMY	3/8" Dr. Metric Hex Driver Set (7 pcs.)	106
SL936	1/2" Dr. Long Handle Sealed Ratchet	118
SXK3	1/2" Dr. Extension, 3" long	120
S8	1/2" Dr. Universal Joint	120
SN24C	1/2" Dr. Breaker Bar, 24" long	120
313TSMYA	1/2" Dr. Metric Deep Skt. Set, 12-Point (13 pcs.)	123
310IMMYLM	1/2" Dr. Metric Impact Skt. Set, 6-Point (10 pcs.)	129
310SIMMYLM	1/2" Dr. Met. Deep Imp. Skt. Set, 6-Point (10 pcs.)	130
IP80C	1/2" Dr. Impact Swivel Socket	132
OEXM200B	Metric Combination Wrench, 12-Point, 20mm	150
OEXM210B	Metric Combination Wrench, 12-Point, 21mm	150
OEXM220B	Metric Combination Wrench, 12-Point, 22mm	150
OEXSM710B	Metric Short Combination Wr. Set	151
OEXM6B	Metric Short Combination Wr., 12-Point, 6mm	151
OEXM7B	Metric Short Combination Wr., 12-Point, 7mm	151
OEXM8B	Metric Short Combination Wr., 12-Point, 8mm	151
OEXM9B	Metric Short Combination Wr., 12-Point, 9mm	151
AD8	Adjustable Wrench, 8" long	174
AWP160	Adjustable Joint Pliers, 16" long	205
61ACP	Duck Bill Pliers, 7 3/4" long	202
388BCP	Hi-Leverage Cutters, 7 3/4" long	204
SRPC105	Retaining Ring Pliers	208
VGP12107	Locking Pliers, 7" long	206
IM6500HP	1/2" Dr. Air Impact Wrench	222
JT13	Blow Gun	248
QD3RM30	1/2" Dr. Click-Type Torque Wrench, 30 kg•m	266
1250	Prybar, 12" long	287
SPB24A	Prybar with Handle, 24" long	287
PPC3A	Center Punch, 5/16"	284
PPC104A	Pin Punch, 1/8"	284
PPC108A	Pin Punch, 1/4"	284
PPC204A	Starter Punch, 1/8"	284
PPC208A	Starter Punch, 1/4"	284
HBFE32	Dead Blow Hammer, 32 oz.	282
BP24B	Ball Peen Hammer, 24 oz.	283
PK100	Utility Knife	294
SGHBF500	File Set with Handles (4 pcs.)	288
CK7D	Fender Cover	300
TDM117A	Metric Tap and Die Set (41 pcs.)	317
CJ2001	Bolt-Grip Puller Set	332
E1020	Extractor Set (20 pcs.)	336
CSA12C	Carbon Scraper	297
TFM428	Flaring Tool	345
TC28C	Tube Cutter	345
2006IT	Carb. Adjust	E24
CP3B	Cotter Pin Puller	E74
AC58C	Wire Brush	E127
GA3000A	Ear Protectors	E141

*A unique concept from Snap-on—Set Building—
it's the right way to develop profits and your
tool inventory.*

U.S. and metric set cabinetry and components are subject to change and may not be exactly as illustrated. U.S. sets are shown on pages 8 and 9. U.S. set listings are on pages 10 and 11. Metric sets are shown on pages 12 and 13. Metric set listings are on pages 14 and 15.

9300GMB0 Complete Set C

Includes 9200GMO Set and 9000GM30 Add-on Group plus KRL731 Top Chest and KRL756A Roll Cab (illustrated on page 30).

9400GMB0 Complete Set D

Includes 9300GMO Set and 9000GM40 Add-on Group plus KRL751 Top Chest and KRL756A Roll Cab (illustrated on page 30).

9000GM30 Add-on Group

Stock No.	Description	Page
TM61A	1/4" Dr. Flexible Extension	79
TMXK110	1/4" Dr. Extension	79
106ATMXWP	1/4" Dr. Wobble Extension Set (6 pcs.)	79
FK936	3/8" Dr. Short Handle Ratchet	92
FBF936	3/8" Dr. Bent Flex-Head Sealed Ratchet	92
F12LA	3/8" Dr. Breaker Bar	95
206AFXWP	3/8" Dr. Wobble Extension Set (6 pcs.)	96
214IMFMYA	3/8" Dr. Metric Impact Skt. Set, 6-Point (14 pcs.)	111
214SIMFMYA	3/8" Dr. Metric Deep Imp. Skts., 6-Point (14 pcs.)	112
211IPFMY	3/8" Dr. Met. Imp. Swivel Skts., 6-Point (11 pcs.)	114
IPF800A	3/8" Dr. Impact Universal Joint	115
SX2	1/2" Dr. Extension, 2"	120
TWM25	1/2" Dr. Metric Socket, 6-Point, 25mm	122
TWM26	1/2" Dr. Metric Socket, 6-Point, 26mm	122
TWM27	1/2" Dr. Metric Socket, 6-Point, 27mm	122
TWM30	1/2" Dr. Metric Socket, 6-Point, 30mm	122
IMM200	1/2" Dr. Metric Impact Socket, 6-Point, 20mm	129
IMM210	1/2" Dr. Metric Impact Socket, 6-Point, 21mm	129
IMM220	1/2" Dr. Metric Impact Socket, 6-Point, 22mm	129
IMM230	1/2" Dr. Metric Impact Socket, 6-Point, 23mm	129
IMM240	1/2" Dr. Metric Impact Socket, 6-Point, 24mm	129
SIMM200	1/2" Dr. Metric Deep Impact Skt., 6-Point, 20mm	130
SIMM210	1/2" Dr. Metric Deep Impact Skt., 6-Point, 21mm	130
SIMM220	1/2" Dr. Metric Deep Impact Skt., 6-Point, 22mm	130
SIMM230	1/2" Dr. Metric Deep Impact Skt., 6-Point, 23mm	130
SIMM240	1/2" Dr. Metric Deep Impact Skt., 6-Point, 24mm	130
OEXM90B	Metric Combination Wrench, 12-Point, 9mm	150
OEXM230B	Metric Combination Wrench, 12-Point, 23mm	150
OEXM240B	Metric Combination Wrench, 12-Point, 24mm	150
OEXM270B	Metric Combination Wrench, 12-Point, 27mm	150
OEXM300B	Metric Combination Wrench, 12-Point, 30mm	150
OXIM710B	Metric Midget Comb. Wr. Set, 12-Point (10 pcs.)	153
OXIM7B	Metric Midget Combination Wr., 12-Point 7mm	153
OXIM8B	Metric Midget Combination Wr., 12-Point 8mm	153
OXIM9B	Metric Midget Combination Wr., 12-Point 9mm	153
XBM605A	Metric Long Offset Box Wrench Set (5 pcs.)	155
XOM605	Metric Deep Offset Box Wrench Set (5 pcs.)	156
VSM807B	Metric Open End Wrench Set (7 pcs.)	162
AD10	Adjustable Wrench, 10"	174
SSDE42B	Flat Tip Electronics Sc. Dr., .018" x 1/8" x 2"	186
SSDE43B	Flat Tip Electronics Sc. Dr., .018" x 1/8" x 3"	186
SSDE44B	Flat Tip Electronics Sc. Dr., .018" x 1/8" x 4"	186
SSDE46B	Flat Tip Electronics Sc. Dr., .018" x 1/8" x 6"	186
SSDE48B	Flat Tip Electronics Sc. Dr., .018" x 1/8" x 8"	186
SDDP620	PHILLIPS® Screwdriver, #2	188
SGDP631R	PHILLIPS® Screwdriver, #3	187
SGDP162	PHILLIPS® Screwdriver, #2	187
SGDMRC11	Stubby Ratcheting Magnetic Screwdriver	192
SDM400A	Screwdriver Bit Set (37 pcs.)	195
AWP120	Adjustable Joint Pliers, 12"	205
196BCP	Needle Nose Pliers with Cutter, 7 1/8"	202
497CCP	90° Angle Needle Nose Pliers, 6 3/8"	202
PWC14	Wire Stripper/Cutter/Bolt Cutter	217
IM31	3/8" Dr. Air Impact Wrench	224
FAR72B	3/8" Dr. Air Ratchet	226
650	Prybar, 6"	287
SPB12A	Prybar with Handle, 12"	287
PPC5A	Punch and Chisel Holder	284
PPC110A	Pin Punch, 5/16"	284
PPC112	Pin Punch, 3/8"	284
PPC210A	Starter Punch, 5/16"	284
PPC824A	Flat Chisel, 3/4"	284
PPC828A	Flat Chisel, 1/2"	284
C2201A	Kit Bag for Punches and Chisels	284

9000GM30 Add-on Group (continued)

Stock No.	Description	Page
PPB1012	Bronze Tapered Punch, 3/8"	285
HBT24	Bronze Tip Hammer, 24 oz.	282
BP8B	Ball Peen Hammer, 8 oz.	283
HBB032	Ball Peen Hammer, 32 oz.	282
JC23C	Creeper	299
RTD48	Rethreading Kit	312
CJ2002	Puller Set	332
PT28E	Pick-Up Tool	291
TC123C	Tube Cutter	345
S9704KFUA	3/8" Dr. Spark Plug U-Socket, 11/16"	347
S9706KFUA	3/8" Dr. Spark Plug U-Socket, 5/8"	347

9000GM40 Add-on Group

Stock No.	Description	Page
TMM4.5	1/4" Dr. Metric Socket, 6-Point, 4.5mm	80
STMM4.5	1/4" Dr. Metric Deep Socket, 6-Point, 4.5mm	82
106ETMAMY	1/4" Dr. Metric Hex Driver Set (6 pcs.)	84
111TMUSMA	1/4" Dr. Metric U-Socket Set (11 pcs.)	83
112IMTMMY	1/4" Dr. Metric Impact Skts., 6-Point (12 pcs.)	87
FX18	3/8" Dr. Extension, 18"	96
FX36	3/8" Dr. Extension, 36"	96
FSM61	3/8" Dr. Metric Socket, 6-Point, 6mm	97
FSM71	3/8" Dr. Metric Socket, 6-Point, 7mm	97
SFSM6	3/8" Dr. Metric Deep Socket, 6-Point, 6mm	99
SFSM7	3/8" Dr. Metric Deep Socket, 6-Point, 7mm	99
FSUM11A	3/8" Dr. Metric U-Socket, 6-Point, 11mm	100
FSUM16A	3/8" Dr. Metric U-Socket, 6-Point, 16mm	100
FSUM18A	3/8" Dr. Metric U-Socket, 6-Point, 18mm	100
FSUM19A	3/8" Dr. Metric U-Socket, 6-Point, 19mm	100
SF936	1/2" Dr. Flex-Head Sealed Ratchet	118
SX15	1/2" Dr. Extension, 15"	120
TWM10A	1/2" Dr. Metric Socket, 6-Point, 10mm	122
TWM11A	1/2" Dr. Metric Socket, 6-Point, 11mm	122
TWM28	1/2" Dr. Metric Socket, 6-Point, 28mm	122
TWM29	1/2" Dr. Metric Socket, 6-Point, 29mm	122
TWM31	1/2" Dr. Metric Socket, 6-Point, 31mm	122
TWM32	1/2" Dr. Metric Socket, 6-Point, 32mm	122
TSM26	1/2" Dr. Metric Deep Socket, 6-Point, 26mm	123
TSM27	1/2" Dr. Metric Deep Socket, 6-Point, 27mm	123
TSM30	1/2" Dr. Metric Deep Socket, 6-Point, 30mm	123
TSM32	1/2" Dr. Metric Deep Socket, 6-Point, 32mm	123
310IPLMY	1/2" Dr. Imp. Swivel Skts., 6-Point (10 pcs.)	131
OEXM250B	Metric Combination Wrench, 12-Point, 25mm	150
OEXM260B	Metric Combination Wrench, 12-Point, 26mm	150
OEXM290B	Metric Combination Wrench, 12-Point, 29mm	150
OEXM300B	Metric Combination Wrench, 12-Point, 30mm	150
RBM604	Metric Ratcheting Box Wr. Set, 12-Point (4 pcs.)	158
RXSM605B	Flare Nut/Open End Wrench Set, 6-Point (5 pcs.)	164
AD6	Adjustable Wrench, 6"	174
SDTX3150	T15 TORX® Screwdriver	190
SDTX3200	T20 TORX® Screwdriver	190
CM6551	Miniature Screwdriver Set	191
O20A	Flat Tip Offset Screwdriver, .025" x 1/4"	191
O30A	Flat Tip Offset Screwdriver, .030" x 5/16"	191
O12C	PHILLIPS® Offset Screwdriver, #1-#2	191
NDDM1070	Metric Nut Driver Set, 6-Point (7 pcs.)	199
CHN480	Adjustable Joint Pliers, 20"	205
VGP12105	Locking Pliers, 5"	206
VGP12706	Long Nose Pliers, 6"	206
E704ACG	Electronic 45° Angle Needle Nose Pliers	212
E712CG	Electronic Needle Nose Pliers	212
E710ACG	Electronic Cutters	213
FAR25	1/4" Dr. Air Ratchet	228
PDR3A	3/8" Capacity Air Drill	229
DBTR129	Drill Bit Set 1/16"-1/4" (29 pcs.)	269
2050	Prybar, 20"	287
SPB8A	Prybar with Handle, 20"	287
PPR708K	Roll Pin Punch Set (8 pcs.)	285
HBFE48	Dead Blow Hammer, 48 oz.	282
BP12B	Ball Peen Hammer, 12 oz.	283
HBFI100	Mixed File Set (6 pcs.)	288
TDM99117A	Metric Tap and Die Set (25 pcs.)	317
CJ950	Bearing Separator	325
CJ2003A	Rear Axle Puller Set	332
CJ2004	Interchangeable Puller Set	332
CJ2005	Puller Accessory Set	332
KRA276D	Wall Cabinet	59
VE200A	Puller Control Board	332

Set Building O. E. M.

These sets were developed by our field research department in conjunction with Master Level Technicians from Chrysler, Ford, GM, Honda, Toyota, and Volkswagen dealerships throughout the United States. Each set includes a variety of essential hand, power and diagnostic tools necessary to service vehicles by specific manufacturer.

General Service Sets DOMGSS and IMPGSS are designed for the general technician servicing a variety of vehicles not specific to one manufacturer. DOMGSS has been developed for use with vehicles manufactured in the U.S., while the IMPGSS provides basic tools needed for servicing vehicles manufactured overseas.

Domestic General Service Set DOMGSS



Import General Service Set IMPGSS



Developed for technicians servicing domestic manufactured vehicles with careers focusing on one of four areas of expertise: driveability, engine, suspension or transmission. Start with the manufacturer specific apprentice set, then add the master hand tool, power and diagnostic sets as your experience and needs grow.

Chrysler Apprentice Set DCAS

DCAS, FMAS, and GMAS, contain all the tools in the DOMGSS General Service Set plus tools used by the entry level technician for service and repair.

- Driveability
DCDMS Add-on Master Set
- Engine
DCEMS Add-on Master Set
- Suspension
DCSMS Add-on Master Set
- Transmission
DCTMS Add-on Master Set

Ford Apprentice Set FMAS

- Driveability
FMDMS Add-on Master Set
- Engine
FMEMS Add-on Master Set
- Suspension
FMSMS Add-on Master Set
- Transmission
FMTMS Add-on Master Set

GM Apprentice Set GMAS

- Driveability
GMDMS Add-on Master Set
- Engine
GMEMS Add-on Master Set
- Suspension
GMSMS Add-on Master Set
- Transmission
GMTMS Add-on Master Set

For technicians servicing vehicles manufactured overseas and dedicated to providing bumper-to-bumper service. Begin with the manufacturer specific apprentice set, then add the master hand tool, power and diagnostic sets as your level of experience advances. HONAS, TOYAS, and VWAS Apprentice Sets contain all the tools in the IMPGSS General Service Set plus tools used by the entry level technician for service and repair work.

Honda Apprentice Set HONAS

- Master Set
HONMS Add-on Master Set

Toyota Apprentice Set TOYAS

- Master Set
TOYMS Add-on Master Set

Volkswagen Apprentice Set VWAS

- Master Set
VWMS Add-on Master Set

For the latest information on set contents, capabilities and additional vehicle coverage see your Snap-on® representative, or contact Snap-on® at your nearest service location. Refer to page M15 and inside back cover for location information.

→	Driveability DCDPS Add-on Power Set	→	Driveability DCDDS Add-on Diagnostic Set
→	Engine DCEPS Add-on Power Set	→	Engine DCEDS Add-on Diagnostic Set
→	Suspension DCSPS Add-on Power Set	→	Suspension DCSDS Add-on Diagnostic Set
→	Transmission DCTPS Add-on Power Set	→	Transmission DCTDS Add-on Diagnostic Set

The diagram illustrates the relationship between Power Set and Diagnostic Set for various vehicle components. It consists of two columns of boxes, each containing a component name and its corresponding set type. Arrows point from the Power Set column to the Diagnostic Set column for each component.

Power Set	Diagnostic Set
Driveability FMDPS Add-on Power Set	Driveability FMDDS Add-on Diagnostic Set
Engine FMEPS Add-on Power Set	Engine FMEDS Add-on Diagnostic Set
Suspension FMSPS Add-on Power Set	Suspension FMSDS Add-on Diagnostic Set
Transmission FMTPS Add-on Power Set	Transmission FMTDS Add-on Diagnostic Set

→	Driveability GMDPS Add-on Power Set	→	Driveability GMDDS Add-on Diagnostic Set
→	Engine GMEPS Add-on Power Set	→	Engine GMEDS Add-on Diagnostic Set
→	Suspension GMSPS Add-on Power Set	→	Suspension GMSDS Add-on Diagnostic Set
→	Transmission GMTPS Add-on Power Set	→	Transmission GMTDS Add-on Diagnostic Set

→ **Power Set**
HONPS Add-on Power Set → **Diagnostic**
HONDS Add-on Diagnostic Set

→ **Power Set**
TOYPS Add-on Power Set → **Diagnostic**
TOYDS Add-on Diagnostic Set

Power Set
VWPS Add-on Power Set

Diagnostic
VWDS Add-on Diagnostic Set



TOOL STORAGE

For as long as tool boxes have been painted red, Snap-on® units have been the overwhelming choice of demanding professionals.

That's because Snap-on® tool chests, roll cabs, carts and accessories have been making technicians' jobs easier for nearly as long as we have been making the tools that people need to put away.

Today's selection of premium storage units from Snap-on® represent the state-of-the-art in engineering and building systems that make work more productive. Our engineers use the latest computer-aided design systems. Our manufacturing processes deliver products that live up to the expectations of the demanding engineers with tight tolerances through quality assembly. Our paint and finishing systems are built to deliver the finest, most durable finishes available. And our rigorous testing procedures prove Snap-on® storage units will live long, trouble-free lives, even under tough conditions.

Snap-on® top-of-the-line KRL series storage units offer professionals an astounding array of choices built on a variety of foot-prints so that every user can select the cabinetry, accessories, work surfaces and colors that personalize their workspaces for form and function.



Snap-on® KRL tool storage systems are available in five standard colors; in single, double and triple bank configurations; two different depths; and include a variety of accessories and choices to build custom work spaces.



Top Left: Snap-on® tool storage designers use state-of-the-art computer-aided design to create products with the features and durability today's technicians demand.

Top Right: Snap-on® tests tool storage units on equipment that is unique in its ability to replicate years of wear and tear in a matter of hours. It's another way to insure our products last longer and perform better.



Bottom Left: Above, our precision welding is performed by experienced people dedicated to building quality products.

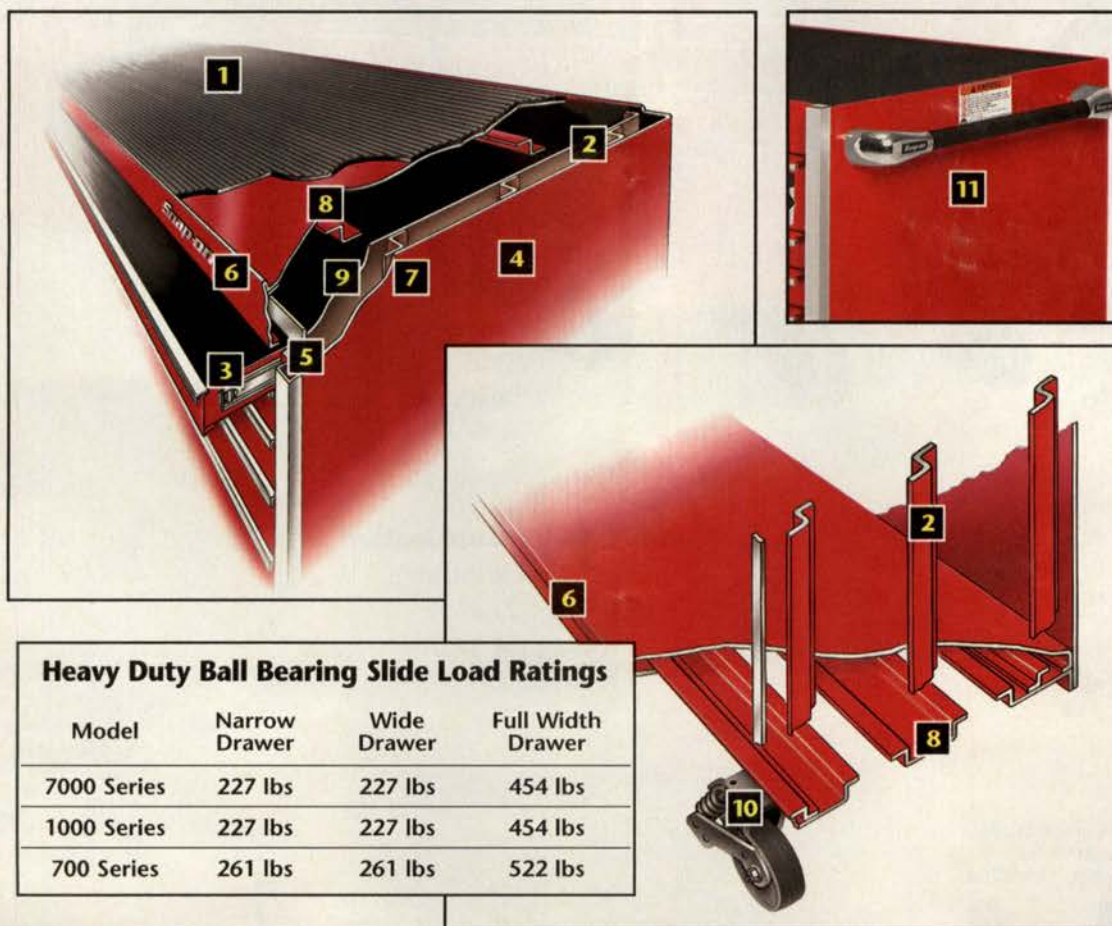
Bottom Right: Our impressive powder coat paint system allows Snap-on® to provide quality finishes in a variety of custom colors.

Smooth riding ball bearing slides and secure "K" series locks are examples of the value built into Snap-on® products. For more information on the features of our tool storage product line, ask your Snap-on® representative for brochure #SS1768.



KRL Series Exclusive Features

- 1** Rubber Mat Surface, .080" thick, protects the work surface and preserves its appearance.
- 2** Z-shaped Stiffeners prevent creases to the outer panels.
- 3** Heavy-Duty Drawer Slides team up with double-wall steel construction and three point slide mounting to ensure smooth, easy operation of fully loaded drawers.
- 4** High-Quality Class 1 Steel is used to enhance the strength and finish. 14 and 16 gauge is used as needed for specific components.
- 5** Reinforcement Gussets on each corner increase toolbox strength, and ensure the corners remain square.
- 6** Rolled Edges add strength and rigidity, and eliminate potential injuries caused by sharp edges.
- 7** Spot Welds 3" to 4" apart ensure a strong, solid unit.
- 8** Load Bearing Stiffener Beams are strategically shaped and placed to provide extra rigidity to support heavy loads.
- 9** Double-Wall Construction features two full-sized layers of heavy-duty steel to provide ultimate strength and durability.
- 10** Heavy-Duty Casters bear heavy loads, ease mobility, and resist most solvents in harsh environments.
- 11** Premium Handle: Unique design provides a professional appearance, comfortable grip, and helps prolong life. Dual mount capability allows the handle to be mounted on either side of the roll cab. Hidden hardware keeps fasteners out of the way and prevents scratches, scraped knuckles and snagged clothing.



Heavy Duty Ball Bearing Slide Load Ratings

Model	Narrow Drawer	Wide Drawer	Full Width Drawer
7000 Series	227 lbs	227 lbs	454 lbs
1000 Series	227 lbs	227 lbs	454 lbs
700 Series	261 lbs	261 lbs	522 lbs

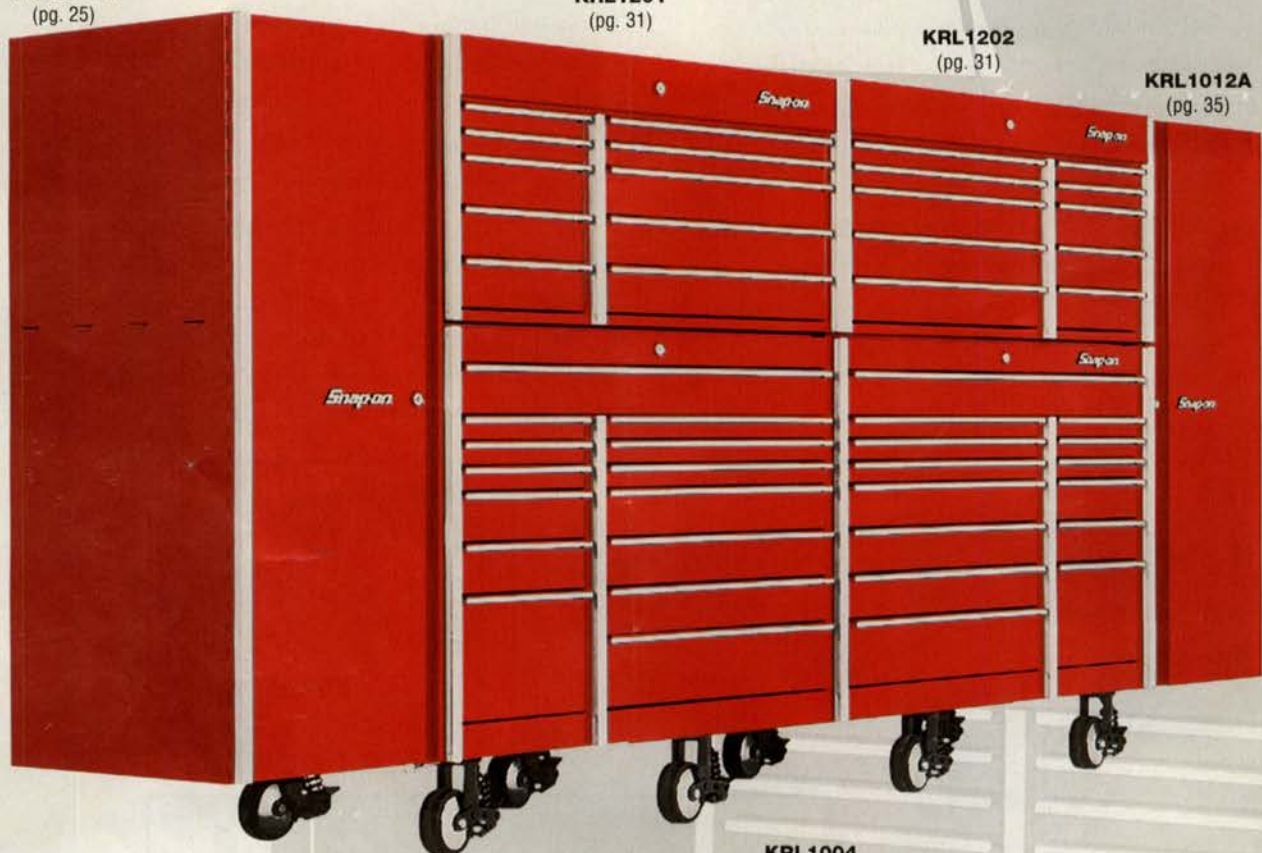
KRL Series Combinations

KRL1012A
(pg. 25)

KRL1201
(pg. 31)

KRL1202
(pg. 31)

KRL1012A
(pg. 35)



KRL1004
(pg. 28)

KRL1004 Series Combination

172,764 cubic inches

Height: 71 1/4"

Width: 156 1/8"

Depth: 29"

All KRL Series Units Are Available in 5 Colors.
Use Base Stock Number for Red.
Add Suffix to Base Stock Number for Special Colors.



KRL Tool Wagon

Tool Storage

KRLP7002APBO · Red
KRLP7002APC · Black
KRLP7002APCM · Royal Blue
KRLP7002APES · Yellow
KRLP7002APM · Cranberry



KRLP7002APBO

Straight from the track... to your shop. The Snap-on® Tool Wagon brings the pit cart concept to you, souped up with plenty of features for the professional technician. It's a complete, pre-assembled workstation, featuring the versatile storage you're looking for. The 29 inch deep roll cab features 12 drawers, including a drawer that's 1/8 inch deeper for those tall sockets... A stainless steel work surface... The locking riser system, a full 21 inches deep... And lockers, each with 2 drawers and adjustable shelves, for larger items.

The Tool Wagon can hold a ton of tools... literally. That's 2,000 lbs. of tools, within almost 14,000 square inches, and 90,000 cubic inches of storage space. Go ahead, take all that space... for a spin! With its 8" chrome wheels, 16" pneumatic tires, and dress-plate fenders, the Snap-on® Tool Wagon looks and rolls like a pit cart.

The automotive anti-scrub steering system is designed to maximize turning ability with little effort. And the twin cam disc brake system was invented for this product by Snap-on. Lower the handle to get rolling. Raise the handle and it automatically returns to the up position and applies the brakes. Even when it's filled with tools, you can bring the unit to a quick and comfortable stop - just release the handle.

The Snap-on® Tool Wagon is set on a heavy duty 12 gauge steel platform, with 7-gauge steel twin beam supports. That means it can take the abuse and remain tough. To prove it, we ran the unit through thousands of hours of our most rigorous testing in the Snap-on test lab.

Available in 5 standard colors (Snap-on red, gloss black, royal blue, ultra yellow and deep cranberry).



KRLP7002 Series Tool Wagon

Cubic inches (cm³): 90,709 (1,486,454) Load Capacity, lbs. (kg): 2,000 (907)
 Square inches (cm²): 13,827 (89,206) Net Weight, lbs. (kg): 1,350 (612.3)
 Shipping Weight, lbs. (kg): 1,300 (590)

	Quantity	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications		98 (2489.2)	29 1/8 (739.7)	62 (1574.8)
Sliding Trays				
761XL36PV	1	14 (355.6)	6 (152.4)	1 1/8 (28.5)
1001XL36PV	1	30 (762.0)	6 (152.4)	1 1/8 (28.5)
Tote Trays				
KTAS8PV	1	10 (254.0)	14 3/16 (360.3)	3 3/16 (84.1)
Drawers				
	1	49 1/8 (1247.7)	27 (685.0)	3 1/16 (96.8)
	3	14 3/8 (371.4)	27 (685.0)	1 1/16 (46.0)
	1	14 3/8 (371.4)	27 (685.0)	4 (101.6)
	1	14 3/8 (371.4)	27 (685.0)	10 1/8 (269.8)
	3	30 1/2 (774.7)	27 (685.0)	1 1/16 (46.0)
	2	30 1/2 (774.7)	27 (685.0)	4 (101.6)
	1	30 1/2 (774.7)	27 (685.0)	6 1/16 (157.1)
Locker Drawers	4	15 3/8 (396.8)	25 3/8 (644.5)	4 (101.6)
Locker Shelves	6	17 (431.8)	24 1/2 (622.3)	-
Lockers	2	17 1/2 (444.5)	27 (685.0)	45 (1143.0)
Riser & Door System	53 1/8 (1368.4)	19 1/8 (504.8)	23 (584.2)	

WARNING

- Do not open more than one loaded drawer at a time.
- Keep children away.
- Close lid, lock drawers and doors before moving.
- Apply brakes on locking casters when not moving unit.
- Do not step in or on drawers.
- Secure units together with fasteners.
- Do not pull; push to move.
- Wear gloves when lifting by edges.
- Keep feet and fingers clear of edges when stacking, hanging, or moving units.
- Read additional safety precautions on pages M1 to M4.

See Warranty Information on inside front cover.

KRL Series Combinations

KRWL3435/KADK68A/KRL7568
(pg. 37)

KRL1012A
(pg. 35)

KRL1221
(pg. 33)

KRL1012A
(pg. 35)



KRL1004 Series Work Station

168,938 cubic inches

Height: 87 1/4"

Width: 156 7/16"

Depth: 29"

KRL1004/KRSST68
(pg. 35)/(pg. 63)

KRL1201APES
(pg. 31)

KRL1201APES
(pg. 35)



KRL1001BPES
(pg. 28)

KRL1001 Series Combination

33,314 cubic inches

Height: 70 3/8"

Width: 78 1/4"

Depth: 29"

KRL1203BPC
(pg. 31)

KRL1011APC
(pg. 33)



KRL1003BPC
(pg. 28)

KRL1003 Series Combination

87,118 cubic inches

Height: 71 1/4"

Width: 92 1/2"

Depth: 29"

All KRL Series Units Are Available in 5 Colors.

Use Base Stock Number for Red.

Add Suffix to Base Stock Number for Special Colors.



RED
Base Stock No.



BLACK
PC



ROYAL BLUE
PCM



YELLOW
PES



CRANBERRY
PM

KRL Series Combinations

Tool Storage

KRL7012PM
(pg. 35)

KRWL3635APM
(pg. 37)

KADK72APM
(pg. 37)

KRW7572PM
(pg. 37)

KRL7011APM
(pg. 33)

KRL7003 Series Work Station

120,598 cubic inches

Height: 82 5/8"

Width: 116 5/8"

Depth: 29 3/32"

KRL7003BPM
(pg. 26)

KRL1203B
(pg. 31)

KRL1251
(pg. 31)

KRL1015A
(pg. 34)

KRL1056A
(pg. 29)

KRL7003B
(pg. 26)

KRL7003 Combination

70,061 cubic inches

Height: 66 3/4"

Width: 72 7/8"

Depth: 29 3/32"

KRL1056 Series Combination

50,492 cubic inches

Height: 69 5/8"

Width: 55 3/8"

Depth: 29 3/32"



WARNING

- Do not open more than one loaded drawer at a time.
- Keep children away.
- Close lid, lock drawers and doors before moving.
- Apply brakes on locking casters when not moving unit.
- Do not step in or on drawers.
- Secure units together with fasteners.
- Do not pull; push to move.
- Wear gloves when lifting by edges.
- Keep feet and fingers clear of edges when stacking, hanging, or moving units.
- Read additional safety precautions on pages M1 to M4.



KRL Series Combinations

KRL7002 Series Work Station

74,254 cubic inches

Height: 82 1/8"

Width: 98 1/8"

Depth: 29 3/32"

KRWL5435PCM

(pg. 37)

KRW7554PCM

(pg. 37)

KRL7015APCM

(pg. 34)

KRL7012PCM

(pg. 35)



KRL1201APC

(pg. 31)

KRL7002APCM

(pg. 26)



KRL7002APC

(pg. 26)

KRL7002 Series Combination

53,129 cubic inches

Height: 66 1/4"

Width: 53 3/8"

Depth: 29 3/32"

KRL1251

(pg. 31)

KRL7001A

(pg. 26)



All KRL Series Units Are Available in 5 Colors.
Use Base Stock Number for Red.
Add Suffix to Base Stock Number for Special Colors.



RED
Base Stock No.



BLACK
PC



ROYAL BLUE
PCM



YELLOW
PES



CRANBERRY
PM

KRL7001 Series Combination

35,633 cubic inches

Height: 65 1/4"

Width: 35 5/8"

Depth: 29 3/32"

KRL Series Combinations

Tool Storage



KRL756 Series Combination

34,278 cubic inches

Height: 60 $\frac{7}{8}$ "

Width: 55 $\frac{3}{8}$ "

Depth: 24"



KRL761 Series Combination

59,807 cubic inches

Height: 60 $\frac{7}{8}$ "

Width: 78 $\frac{1}{4}$ "

Depth: 24"

KRL731PM
(pg. 32)

KRL711APM
(pg. 33)



KRL756 Series Combination

32,883 cubic inches

Height: 60 $\frac{7}{8}$ "

Width: 55 $\frac{3}{8}$ "

Depth: 24"



WARNING

- Do not open more than one loaded drawer at a time.
- Keep children away.
- Close lid, lock drawers and doors before moving.
- Apply brakes on locking casters when not moving unit.
- Do not step in or on drawers.
- Secure units together with fasteners.
- Do not pull; push to move.
- Wear gloves when lifting by edges.
- Keep feet and fingers clear of edges when stacking, hanging, or moving units.
- Read additional safety precautions on pages M1 to M4.



Tool Storage

KRL Roll Cabs



KRL7003B Series Roll Cab

Cubic inches (cm³): 37,454 (613,760)
Square inches (cm²): 11,383 (73,439)

Load Capacity, lbs. (kg): 6,000 (2722)
Net Weight, lbs. (kg): 822 (373)

Shipping Weight, lbs. (kg): 927 (421)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	20	72 1/8 (1851)	29 1/2 (739)	41 1/8 (644.5)
Sliding Tray				
761XL36PV	1	29 1/8 (758.8)	6 (152.4)	1 3/2 (27.8)
1001XL36PV	1	14 1/8 (358.8)	6 (152.4)	1 3/2 (27.8)
Tote Tray				
KT88PV		14 1/16 (376.2)	10 (254)	3 1/16 (81)
Drawers	8	14 1/16 (376.2)	26 3/32 (685)	1 1/4 (44.5)
	3	14 1/16 (376.2)	26 3/32 (685)	3 3/32 (100.8)
	1	14 1/16 (376.2)	26 3/32 (685)	6 1/16 (157.2)
	1	14 1/16 (376.2)	26 3/32 (685)	10 1/8 (269.9)
	3	30 1/32 (775.5)	26 3/32 (685)	1 1/4 (44.5)
	2	30 1/32 (775.5)	26 3/32 (685)	3 3/32 (100.8)
	1	30 1/32 (775.5)	26 3/32 (685)	6 1/16 (157.2)
	1	49 1/16 (1252.5)	26 3/32 (685)	3 1/16 (93.7)

KRL7002A Series Roll Cab

Cubic inches (cm³): 28,507 (467,150)
Square inches (cm²): 8,233 (53,116)

Load Capacity, lbs. (kg): 4,800 (2177)
Net Weight, lbs. (kg): 585 (265)

Shipping Weight, lbs. (kg): 664 (301)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	12	54 1/4 (1378)	29 1/2 (739)	40 1/2 (1037.4)
Sliding Tray				
761XL36PV		29 1/8 (758.8)	6 (152.4)	1 3/2 (27.8)
1001XL36PV		14 1/8 (358.8)	6 (152.4)	1 3/2 (27.8)
Tote Tray				
KT88PV		14 1/16 (376.2)	10 (254)	3 1/16 (81)
Drawers	3	14 1/32 (380.2)	26 3/32 (685)	1 1/4 (44.5)
	1	14 1/32 (380.2)	26 3/32 (685)	3 1/16 (100)
	1	14 1/32 (380.2)	26 3/32 (685)	10 1/32 (270.7)
	3	30 1/16 (766.8)	26 3/32 (685)	1 1/4 (44.5)
	2	30 1/16 (766.8)	26 3/32 (685)	3 1/16 (100)
	1	30 1/16 (766.8)	26 3/32 (685)	6 1/16 (157.2)
	1	49 1/16 (1249.4)	26 3/32 (685)	3 1/16 (93.7)



KRL7001A Series Roll Cab

Cubic inches (cm³): 19,105 (313,070)
Square inches (cm²): 5,762 (37,174)

Load Capacity, lbs. (kg): 3,600 (1630)
Net Weight, lbs. (kg): 359 (163)

Shipping Weight, lbs. (kg): 412 (187)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	7	35 1/32 (905.7)	29 1/2 (739.0)	39 1/32 (1012)
Sliding Trays				
761XL36PV		29 1/8 (758.8)	6 (152.4)	1 1/2 (27.8)
Drawers	3	30 1/32 (775.5)	26 3/32 (685.0)	1 1/4 (44.5)
	3	30 1/32 (775.5)	26 3/32 (685.0)	3 3/32 (100.8)
	1	30 1/32 (775.5)	26 3/32 (685.0)	6 1/16 (157.2)

KRL Roll Cabs

Tool Storage

KRL7022 Series Roll Cab

Cubic inches (cm³): 25,864 (423,835)
Square inches (cm²): 6,346 (40,942)

Load Capacity, lbs. (kg): 4,800 (2,180)
Net Weight, lbs. (kg): 650 (295)
Shipping Weight, lbs. (kg): 664 (301)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	11	54 1/8 (1381.1)	29 1/8 (739.7)	40 1/16 (1036.6)
Sliding Tray	1	14 (355.6)	6 (152.4)	1 1/8 (27.8)
	1	30 (358.8)	6 (152.4)	1 1/8 (27.8)
Sliding Tote Tray	1	10 (376.2)	4 1/16 (254)	3 1/16 (81)
Drawers	1	49 1/8 (1247.7)	27 (685.8)	4 1/8 (123.8)
	1	49 1/8 (1247.7)	27 (685.8)	2 1/16 (68.2)
	3	14 1/8 (371.4)	27 (685.8)	1 1/16 (42.8)
	1	14 1/8 (371.4)	27 (685.8)	10 1/8 (269.8)
	3	30 1/2 (774.7)	27 (685.8)	1 1/16 (42.8)
	1	30 1/2 (774.7)	27 (685.8)	4 (101.6)
	1	30 1/2 (774.7)	27 (685.8)	6 1/16 (157.1)



KRL7022PCM

KRL7022PES

KRL7022PM

KRL7023

KRL7023PC

KRL7023PCM



KRL7023PES

KRL7023PM

KRL7023 Series Roll Cab

Cubic inches (cm³): 37,812 (619,628)
Square inches (cm²): 11,499 (74,187)

Load Capacity, lbs. (kg): 6,000 (2,722)
Net Weight, lbs. (kg): 822 (373)
Shipping Weight, lbs. (kg): 930 (422)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	19	72 1/8 (1851)	29 1/8 (739.7)	40 1/16 (1036.6)
Sliding Tray	1	14 (355.6)	6 (152.4)	1 1/8 (28.5)
	1	30 (762.0)	6 (152.4)	1 1/8 (28.5)
Sliding Tote Tray	1	10 (254.0)	14 1/16 (360.3)	3 1/16 (84.1)
Drawers	1	49 1/8 (1247.7)	27 (685.8)	4 1/8 (123.8)
	1	49 1/8 (1247.7)	27 (685.8)	2 1/16 (68.2)
	8	14 1/8 (371.4)	27 (685.8)	1 1/16 (42.8)
	2	14 1/8 (371.4)	27 (685.8)	4 (101.6)
	1	14 1/8 (371.4)	27 (685.8)	6 1/16 (157.1)
	1	14 1/8 (371.4)	27 (685.8)	10 1/8 (269.8)
	3	30 1/2 (774.7)	27 (685.8)	1 1/16 (42.8)
	1	30 1/2 (774.7)	27 (685.8)	4 (101.6)
	1	30 1/2 (774.7)	27 (685.8)	6 1/16 (157.1)



WARNING

- Do not open more than one loaded drawer at a time.
- Keep children away.
- Close lid, lock drawers and doors before moving.
- Apply brakes on locking casters when not moving unit.
- Do not step in or on drawers.
- Secure units together with fasteners.
- Do not pull; push to move.
- Wear gloves when lifting by edges.
- Keep feet and fingers clear of edges when stacking, hanging, or moving units.
- Read additional safety precautions on pages M1 to M4.



All KRL Series Units Are Available in 5 Colors.
Use Base Stock Number for Red.
Add Suffix to Base Stock Number for Special Colors.



See Warranty Information on inside front cover.

Tool Storage

KRL Roll Cabs

KRL1004 Series Roll Cab

Cubic inches (cm³): 66,628 (1,092,032) Load Capacity, lbs. (kg): 12,000 (5,443)
 Square inches (cm²): 18,900 (121,942) Net Weight, lbs. (kg): 1,341 (608.3)
 Shipping Weight, lbs. (kg): 1,544 (700)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	28	108 (2743.0)	29 1/2 (739.0)	45 1/8 (1165)
Trays	761XL36PV Sliding	29 1/8 (758.8)	6 (152.4)	1 1/2 (27.8)
	1001XL36PV Sliding	14 1/8 (358.8)	6 (152.4)	1 1/2 (27.8)
Tote	KTA8PV	14 1/16 (376.2)	10 (254.0)	3 1/16 (96.8)
Drawers	6	14 1/8 (371.5)	26 3/32 (685.0)	1 1/4 (44.5)
	4	14 1/8 (371.5)	26 3/32 (685.0)	3 1/16 (100.8)
	2	14 1/8 (371.5)	26 3/32 (685.0)	10 3/8 (269.9)
	6	30 1/32 (775.5)	26 3/32 (685.0)	1 1/4 (44.5)
	6	30 1/32 (775.5)	26 3/32 (685.0)	3 1/16 (100.8)
	2	30 1/32 (775.5)	26 3/32 (685.0)	6 1/4 (158.8)
	2	49 1/32 (1,248.6)	26 3/32 (685.0)	3 1/16 (93.6)



KRL1001B

KRL1001BPC

KRL1001BPCM

KRL1001BPES

KRL1001BPM



KRL1001B Series Roll Cab

Cubic inches (cm³): 33,314 (545,920) Load Capacity, lbs. (kg): 4,800 (2,180)
 Square inches (cm²): 9,450 (60,970) Net Weight, lbs. (kg): 652 (296)
 Shipping Weight, lbs. (kg): 741 (336)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	14	54 1/4 (1378.0)	29 1/2 (739.0)	45 1/4 (1149.4)
Sliding Trays				
761XL36PV	29 1/8 (758.8)	6 (152.4)	1 1/2 (27.8)	
1001XL36PV	14 1/8 (358.8)	6 (152.4)	1 1/2 (27.8)	
Tote Tray				
KTA8PV	14 1/16 (376.2)	10 (254)	3 1/16 (96.8)	
Drawers	3	14 1/8 (371.5)	26 3/32 (685.0)	1 1/4 (44.5)
	2	14 1/8 (371.5)	26 3/32 (685.0)	3 1/16 (100.8)
	1	14 1/8 (371.5)	26 3/32 (685.0)	10 3/8 (269.9)
	3	30 1/32 (775.5)	26 3/32 (685.0)	1 1/4 (44.5)
	3	30 1/32 (775.5)	26 3/32 (685.0)	3 1/16 (100.8)
	1	30 1/32 (775.5)	26 3/32 (685.0)	6 1/4 (158.8)
	1	49 1/32 (1248.6)	26 3/32 (685.0)	3 1/16 (158.8)

KRL1003B Series Roll Cab

Cubic inches (cm³): 43,816 (718,020) Load Capacity, lbs. (kg): 6,000 (2720)
 Square inches (cm²): 12,994 (83,832) Net Weight, lbs. (kg): 892 (405)
 Shipping Weight, lbs. (kg): 1,019 (462)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	23	72 1/8 (1851.0)	29 1/2 (739.0)	45 1/16 (1163.6)
Sliding Trays				
761XL36PV	29 1/8 (758.8)	6 (152.4)	1 1/2 (27.8)	
1001XL36PV	14 1/8 (358.8)	6 (152.4)	1 1/2 (27.8)	
Tote Tray				
KTA8PV	14 1/16 (376.2)	10 (254)	3 1/16 (96.8)	
Drawers	8	14 1/8 (371.5)	26 3/32 (685.0)	1 1/4 (44.5)
	5	14 1/8 (371.5)	26 3/32 (685.0)	3 1/16 (100.8)
	1	14 1/8 (371.5)	26 3/32 (685.0)	6 1/4 (158.8)
	1	14 1/8 (371.5)	26 3/32 (685.0)	10 3/8 (269.9)
	3	30 1/32 (775.5)	26 3/32 (685.0)	1 1/4 (44.5)
	3	30 1/32 (775.5)	26 3/32 (685.0)	3 1/16 (100.8)
	1	30 1/32 (775.5)	26 3/32 (685.0)	6 1/4 (158.8)
	1	49 1/32 (1248.6)	26 3/32 (685.0)	3 1/16 (93.7)

KRL1003B

KRL1003BPC

KRL1003BPCM

KRL1003BPES

KRL1003BPM



KRL Roll Cabs

Tool Storage



KRL1023 Series Roll Cab

Cubic inches (cm³): 44,260 (725,291)
Square inches (cm²): 13,111 (84,587)

Load Capacity, lbs. (kg): 6,000 (2,777)
Net Weight, lbs. (kg): 892 (405)
Shipping Weight, lbs. (kg): 1,180 (535)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	22	72 1/8 (1851)	29 1/8 (739.7)	45 1/16 (1163.6)
Sliding Tray	1	14 (355.6)	6 (152.4)	1 1/8 (28.5)
Sliding Tote Tray	1	30 (762.0)	6 (152.4)	1 1/8 (28.5)
Sliding Tote Tray	10	254.0 (254.0)	14 1/16 (360.3)	3 1/16 (84.1)
Drawers	1	49 1/8 (1247.7)	27 (685.8)	4 7/8 (123.8)
	1	49 1/8 (1247.7)	27 (685.8)	2 1/16 (68.2)
	8	14 1/8 (371.4)	27 (685.8)	1 1/16 (42.8)
	4	14 1/8 (371.4)	27 (685.8)	4 (101.6)
	1	14 1/8 (371.4)	27 (685.8)	6 1/16 (157.1)
	1	14 1/8 (371.4)	27 (685.8)	10 1/8 (269.8)
	3	30 1/2 (774.7)	27 (685.8)	1 1/16 (42.8)
	2	30 1/2 (774.7)	27 (685.8)	4 (101.6)
	1	30 1/2 (774.7)	27 (685.8)	6 1/16 (157.1)

KRL1022 Series Roll Cab

Cubic inches (cm³): 33,735 (552,818) Load Capacity, lbs. (kg): 4,800 (2,180)
Square inches (cm²): 9,563 (61,697) Net Weight, lbs. (kg): 720 (327)
Shipping Weight, lbs. (kg): 840 (381)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	13	54 1/8 (1379.5)	29 1/8 (739.7)	45 1/16 (1150.9)
Sliding Tray	1	14 (355.6)	6 (152.4)	1 1/8 (28.5)
Sliding Tray	1	30 (762.0)	6 (152.4)	1 1/8 (28.5)
Sliding Tote Tray	10	254.0 (254.0)	14 1/16 (360.3)	3 1/16 (84.1)
Drawers	1	49 1/8 (1247.7)	27 (685.8)	4 7/8 (123.8)
	1	49 1/8 (1247.7)	27 (685.8)	2 1/16 (68.2)
	3	14 1/8 (371.4)	27 (685.8)	1 1/16 (42.8)
	1	14 1/8 (371.4)	27 (685.8)	4 (101.6)
	1	14 1/8 (371.4)	27 (685.8)	10 1/8 (269.8)
	3	30 1/2 (774.7)	27 (685.8)	1 1/16 (42.8)
	2	30 1/2 (774.7)	27 (685.8)	4 (101.6)
	1	30 1/2 (774.7)	27 (685.8)	6 1/16 (157.1)



KRL1056A Series Roll Cab

Cubic inches (cm³): 22,356 (366,350)
Square inches (cm²): 6,585 (42,484)

Load Capacity, lbs. (kg): 3,600 (1,630)
Net Weight, lbs. (kg): 396 (180)
Shipping Weight, lbs. (kg): 450 (204)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	8	35 1/32 (905.7)	29 1/32 (739.0)	44 1/32 (1124.7)
Sliding Trays				
761XL36PV		29 1/8 (758.8)	6 (152.4)	1 1/32 (27.8)
Drawers	3	30 1/32 (775.5)	26 1/32 (685.0)	1 1/4 (44.5)
	4	30 1/32 (775.5)	26 1/32 (685.0)	3 1/32 (100.8)
	1	30 1/32 (775.5)	26 1/32 (685.0)	6 1/4 (158.8)



WARNING

- Do not open more than one loaded drawer at a time.
- Keep children away.
- Close lid, lock drawers and doors before moving.
- Apply brakes on locking casters when not moving unit.
- Do not step in or on drawers.
- Secure units together with fasteners.
- Do not pull; push to move.
- Wear gloves when lifting by edges.
- Keep feet and fingers clear of edges when stacking, hanging, or moving units.
- Read additional safety precautions on pages M1 to M4.



KRL Roll Cabs



KRL756A Series Roll Cab

Cubic inches (cm³): 15,506 (254,100) Load Capacity, lbs. (kg): 3,600 (1630)
 Square inches (cm²): 4,677 (30,174) Net Weight, lbs. (kg): 306 (139)
 Shipping Weight, lbs. (kg): 361 (164)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	7	35 1/8 (904.9)	24 (609.6)	39 7/32 (1012)
Sliding Trays				
761XL36PV		29 1/8 (758.8)	6 (152.4)	1 1/2 (27.8)
Drawers	3	30 3/32 (786.6)	21 7/32 (556.4)	1 1/4 (44.5)
	3	30 3/32 (786.6)	21 7/32 (556.4)	3 7/32 (100.8)
	1	30 3/32 (786.6)	21 7/32 (556.4)	6 1/4 (158.8)

KRL761B Roll Cab

Cubic inches (cm³): 23,138 (379,160) Load Capacity, lbs. (kg): 3,600 (1,630)
 Square inches (cm²): 6,682 (43,110) Net Weight, lbs. (kg): 489 (222)
 Shipping Weight, lbs. (kg): 568 (258)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	12	54 1/4 (1378)	24 (609.6)	39 7/32 (1012)
Sliding Trays				
761XL36PV		29 1/8 (758.8)	6 (152.4)	1 1/2 (27.8)
1001XL36PV		14 1/8 (358.8)	6 (152.4)	1 1/2 (27.8)
Tote Tray				
KTA8PV		14 13/16 (376.2)	10 (254)	3 13/16 (96.8)
Drawers	3	14 1/8 (371.5)	21 7/32 (556.4)	1 1/4 (44.5)
	1	14 1/8 (371.5)	21 7/32 (556.4)	6 1/4 (158.8)
	1	14 1/8 (371.5)	21 7/32 (556.4)	10 1/8 (269.9)
	3	30 17/32 (775.5)	21 7/32 (556.4)	1 1/4 (44.5)
	2	30 17/32 (775.5)	21 7/32 (556.4)	3 7/32 (100.8)
	1	30 17/32 (775.5)	21 7/32 (556.4)	6 1/4 (158.8)
	1	49 1/32 (1248.6)	21 7/32 (556.4)	3 11/16 (93.7)



WARNING

- Do not open more than one loaded drawer at a time.
- Keep children away.
- Close lid, lock drawers and doors before moving.
- Apply brakes on locking casters when not moving unit.
- Do not step in or on drawers.
- Secure units together with fasteners.
- Do not pull; push to move.
- Wear gloves when lifting by edges.
- Keep feet and fingers clear of edges when stacking, hanging, or moving units.
- Read additional safety precautions on pages M1 to M4.



All KRL Series Units Are Available in 5 Colors.
 Use Base Stock Number for Red.
 Add Suffix to Base Stock Number for Special Colors.



KRL Top Chests

Tool Storage

KRL1203B Series Top Chest

Cubic inches (cm³): 32,607 (534,330)

Net Weight, lbs. (kg): 590 (268)

Square inches (cm²): 9,982 (64,400)

Shipping Weight, lbs. (kg): 668 (303)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	15	72 1/8 (1851.0)	29 1/2 (739.0)	25 1/8 (644.5)
Top Compartment				
Narrow		18 1/8 (471.5)	26 1/16 (684.2)	4 1/8 (104.8)
Wide		53 1/8 (1349.4)	26 1/16 (684.2)	4 1/8 (104.8)
Drawers	4	14 1/8 (371.5)	26 1/2 (685.0)	1 1/4 (44.5)
	6	14 1/8 (371.5)	26 1/2 (685.0)	3 3/32 (100.8)
	2	30 1/32 (775.5)	26 1/2 (685.0)	1 1/4 (44.5)
	3	30 1/32 (775.5)	26 1/2 (685.0)	3 3/32 (100.8)

KRL1203B

KRL1203BPC

KRL1203BPCM



KRL1203BPES

KRL1203BPM

KRL1201A

KRL1201APC

KRL1201APCM

KRL1201APES



KRL1201APM

KRL1201A / KRL1202 Series Top Chest

Cubic inches (cm³): 24,622 (403,480)

Net Weight, lbs. (kg): 424 (192)

Square inches (cm²): 7,539 (48,639)

Shipping Weight, lbs. (kg): 490 (222)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	10	54 1/4 (1378.0)	29 1/2 (739.0)	25 1/8 (644.5)
Top Compartment		54 1/4 (1378.0)	26 1/32 (683.4)	4 1/8 (104.8)
Drawers	2	14 1/8 (371.5)	26 1/32 (685.0)	1 1/4 (44.5)
	3	14 1/8 (371.5)	26 1/32 (685.0)	3 3/32 (100.8)
	2	30 1/32 (775.5)	26 1/32 (685.0)	1 1/4 (44.5)
	3	30 1/32 (775.5)	26 1/32 (685.0)	3 3/32 (100.8)

KRL1202

KRL1202PC

KRL1202PCM



KRL1202PES

KRL1202PM

KRL1251

KRL1251PC

KRL1251PCM

KRL1251PM



KRL1251PES

KRL1251 Series Top Chest

Cubic inches (cm³): 16,528 (270,850)

Net Weight, lbs. (kg): 267 (121)

Square inches (cm²): 5,069 (32,703)

Shipping Weight, lbs. (kg): 306 (139)

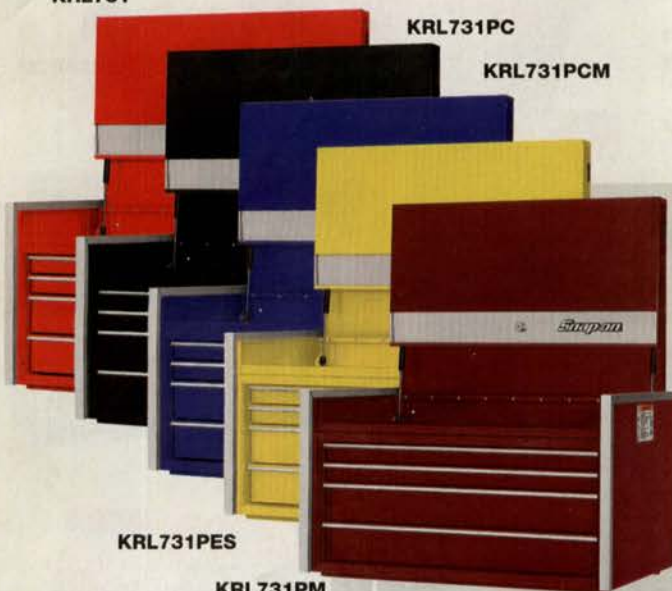
	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	5	35 1/8 (904.9)	29 1/2 (739.0)	25 1/8 (644.5)
Top Compartment		35 1/32 (899.3)	26 1/16 (684.2)	4 1/8 (104.8)
Drawers	2	30 1/32 (775.5)	26 1/32 (685.0)	1 1/4 (44.5)
	3	30 1/32 (775.5)	26 1/32 (685.0)	3 3/32 (100.8)

KRL Top Chests

KRL731

KRL731PC

KRL731PCM



KRL731PES

KRL731PM

KRL751 Series Top Chest

Cubic inches (cm³): 10,788 (176,780)

Net Weight, lbs. (kg): 194 (88)

Square inches (cm²): 3,449 (22,252)

Shipping Weight, lbs. (kg): 235 (107)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	4	35 1/8 (904.9)	24 (609.6)	21 (533.4)
Top Compartment		35 13/32 (899.3)	21 15/16 (557.2)	4 1/8 (104.8)
Drawers	2	30 3/32 (786.6)	21 7/32 (556.4)	1 3/4 (44.5)
	2	30 3/32 (786.6)	21 7/32 (556.4)	3 3/32 (100.8)

KRL731 Series Top Chest

Cubic inches (cm³): 9,959 (163,200)

Net Weight, lbs. (kg): 190 (86)

Square inches (cm²): 3,157 (20,368)

Shipping Weight, lbs. (kg): 232 (105)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	4	35 1/8 (904.9)	24 (609.6)	21 (533.4)
Top Compartment		35 13/32 (899.3)	21 15/16 (557.2)	4 1/8 (104.8)
Drawers	2	30 3/32 (775.5)	19 1/2 (495.3)	1 3/4 (44.5)
	2	30 3/32 (775.5)	19 1/2 (495.3)	3 3/32 (100.8)

KRL751

KRL751PC

KRL751PCM



KRL751PES

KRL751PM

KRL791A

KRL791APC

KRL791APCM



KRL791APES

KRL791APM

KRL791A Series Top Chest

Cubic inches (cm³): 16,101 (263,850)

Net Weight, lbs. (kg): 302 (132)

Square inches (cm²): 5,135 (33,129)

Shipping Weight, lbs. (kg): 354 (161)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	8	54 1/4 (1378)	24 (609.6)	21 (533.4)
Top Compartment		54 1/32 (1372.4)	21 15/16 (557.2)	4 1/8 (104.8)
Drawers	2	14 3/4 (374.4)	21 7/32 (556.4)	1 3/4 (44.5)
	2	14 3/4 (374.4)	21 7/32 (556.4)	3 3/32 (100.8)
	2	30 1/32 (775.5)	21 7/32 (556.4)	1 3/4 (44.5)
	2	30 1/32 (775.5)	21 7/32 (556.4)	3 3/32 (100.8)



WARNING

- Do not open more than one loaded drawer at a time.
- Keep children away.
- Close lid, lock drawers and doors before moving.
- Apply brakes on locking casters when not moving unit.
- Do not step in or on drawers.
- Secure units together with fasteners.
- Do not pull; push to move.
- Wear gloves when lifting by edges.
- Keep feet and fingers clear of edges when stacking, hanging, or moving units.
- Read additional safety precautions on pages M1 to M4.



KRL Lockers

Tool Storage



KRL1012A

KRL1012APC

KRL1012APCM

KRL1012APES

KRL1012APM

KRL7012 Series Locker

Cubic inches (cm³): 26,085 (427,456) Net Weight, lbs. (kg): 285 (129)
Square inches (cm²): 3,564 (22,994) Shipping Weight, lbs. (kg): 336 (152)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	4	24 1/16 (611.2)	29 3/32 (739)	57 3/32 (1470.8)
Drawers	4	19 3/32 (494.5)	25 1/8 (638.2)	3 3/32 (100.8)
Shelves	3	21 1/16 (535)	22 3/4 (577.9)	Adjustable
Trays	2	17 1/8 (454)	3 3/32 (80.2)	3 3/32 (100.8)



KRL712A

KRL712APC

KRL712APCM

KRL712APES

KRL712APM

KRL1012A Series Locker

Cubic inches (cm³): 28,446 (466,146) Net Weight, lbs. (kg): 306 (139)
Square inches (cm²): 3,564 (22,990) Shipping Weight, lbs. (kg): 358 (162)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	4	24 1/16 (611.2)	29 3/32 (739.0)	62 1/32 (1583.5)
Drawers	4	19 3/32 (494.5)	25 1/8 (638.2)	3 3/32 (100.8)
Shelves	3	21 1/16 (535.0)	22 3/4 (577.9)	Adjustable
Trays	2	17 1/8 (454.0)	3 3/32 (80.2)	3 3/32 (100.8)



KRL7012

KRL7012PCM

KRL7012PC

KRL7012PES

KRL7012PM

KRL712A Series Locker

Cubic inches (cm³): 20,568 (337,050) Net Weight, lbs. (kg): 238 (108)
Square inches (cm²): 2,831 (18,264) Shipping Weight, lbs. (kg): 254 (115)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	4	24 1/16 (611.2)	23 3/32 (607.2)	53 1/16 (1357.3)
Drawers	4	19 3/32 (494.5)	19 3/32 (507.2)	33 3/32 (100.8)
Shelves	3	21 1/16 (535)	17 1/16 (446.1)	Adjustable
Trays	3	17 1/8 (454)	3 3/32 (80.6)	33 3/32 (100.8)



WARNING

- Do not open more than one loaded drawer at a time.
- Keep children away.
- Close lid, lock drawers and doors before moving.
- Apply brakes on locking casters when not moving unit.
- Do not step in or on drawers.
- Secure units together with fasteners.
- Do not pull; push to move.
- Wear gloves when lifting by edges.
- Keep feet and fingers clear of edges when stacking, hanging, or moving units.
- Read additional safety precautions on pages M1 to M4.



Tool Storage

KRL Docker Locker®

KRL1018 Series Docker Locker®

Cubic inches (cm³): 31,642 (518,519) Net Weight, lbs. (kg): 202 (91.63)
 Square inches (cm²): 1,578 (10,181) Shipping Weight, lbs. (kg): 295 (134)

	Quantity	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications		24 1/16 (611.2)	29 1/32 (739.4)	63 1/8 (1584.3)

KRL1018 Series Docker Locker®. Provides a quick way to secure your tools and gives additional bulk storage. Includes a roll cart designed to fit locker (not available separately), KAT18PV Can Rack and one adjustable shelf. Mounts on either side of KRL1000 Series Roll Cabs. *Not designed for use with standard roll carts.*



KRL7018 (Red)
KRL7018PC (Black)
KRL7018PCM (Royal Blue)
KRL7018PES (Ultra Yellow)
KRL7018PM (Cranberry)

KRL1018PC

KRL1018PCM

KRL1018PES

KRL1018PM

KRL7018 Series Docker Locker®

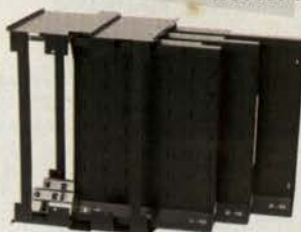
Cubic inches (cm³): 29,139 (477,503) Net Weight, lbs. (kg): 190 (86.18)
 Square inches (cm²): 1,578 (10,181) Shipping Weight, lbs. (kg): 287 (130)

	Quantity	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications		24 1/16 (611.2)	29 1/32 (739.4)	57 25/32 (1470.8)

KRL7018 Series Docker Locker®. Provides a quick way to secure your tools and gives additional bulk storage. Includes a roll cart designed to fit locker (not available separately), KAT18PV Can Rack and one adjustable shelf. Mounts on either side of KRL7000 Series Roll Cabs. *Not designed for use with standard roll carts.*



1012VSMPV



715VSMPV

Vertical Storage Modules

1012VSMPV: For KRL1012A Series Lockers. 5 Drawers.
1015VSMPV: For KRL1015A Series Bulk End Cabs. 3 Drawers.
712VSMPV: For KRL712A Series Lockers. 5 Drawers.
715VSMPV: For KRL715A Series Bulk End Cabs. 3 Drawers.

Not for use with Docker Lockers

All KRL Series Units Are Available in 5 Colors.
 Use Base Stock Number for Red.
 Add Suffix to Base Stock Number for Special Colors.



RED Base Stock No. BLACK PC ROYAL BLUE PCM YELLOW PES CRANBERRY PM

KRL Overhead Cabs, Risers & Riser Doors

Tool Storage

KRWL3435 Series 34" Bulk Overhead Cab

Cubic inches (cm³): 8,239 (135,013) Net Weight, lbs. (kg): 60 (27.22)
Square inches (cm²): 714 (4,606) Shipping Weight, lbs. (kg): 75 (34)

KRWL3635 Series 36" Bulk Overhead Cab

Cubic inches (cm³): 8,700 (142,567) Net Weight, lbs. (kg): 75 (34.02)
Square inches (cm²): 756 (4,877) Shipping Weight, lbs. (kg): 80 (36)

KRWL5435 Series 54" Bulk Overhead Cab

Cubic inches (cm³): 13,305 (218,030) Net Weight, lbs. (kg): 125 (56.70)
Square inches (cm²): 1,134 (7,316) Shipping Weight, lbs. (kg): 125 (57)

	Depth, inches (mm)	Height, inches (mm)
Specifications	21 (533.4)	16 (406.4)

KADK54A
KADK68A
KADK72A

KADK54APC
KADK68APC
KADK72APC

KADK54APCM
KADK68APCM
KADK72APCM

KADK54APES
KADK68APES
KADK72APES

KADK54APM
KADK68APM
KADK72APM

KRW7554A
KRW7568A
KRW7572A

KRW7554APC
KRW7568APC
KRW7572APC

KRW7554APCM
KRW7568APCM
KRW7572APCM

KRW7554APES
KRW7568APES
KRW7572APES

KRW7554APM
KRW7568APM
KRW7572APM

KRW7554 Series 54" Riser

Cubic inches (cm³): 22,672 (371,528) Net Weight, lbs. (kg): 99 (45)
Square inches (cm²): 1,134 (7,316) Shipping Weight, lbs. (kg): 99 (45)

KRW7568 Series 68" Riser

Cubic inches (cm³): 28,950 (474,406) Net Weight, lbs. (kg): 119 (54)
Square inches (cm²): 1,428 (9,213) Shipping Weight, lbs. (kg): 119 (54)

KRW7572 Series 72" Riser

Cubic inches (cm³): 30,520 (500,133) Net Weight, lbs. (kg): 122 (56)
Square inches (cm²): 1,512 (9,755) Shipping Weight, lbs. (kg): 122 (56)

	Depth, inches (mm)	Height, inches (mm)
Specifications	21 (533.4)	23 1/2 (596.9)



KRWL3435
KRWL3635
KRWL5435



KRWL3435PC
KRWL3635PC
KRWL5435PC



KRWL3435PCM
KRWL3635PCM
KRWL5435PCM



KRWL3435PM
KRWL3635PM
KRWL5435PM

KADK54A Series 52" Riser Door

Net Weight, lbs. (kg): 40 (18.14) Shipping Weight, lbs. (kg): 40 (18)

KADK68A Series 68" Riser Door

Net Weight, lbs. (kg): 54 (24.49) Shipping Weight, lbs. (kg): 54 (25)

KADK72A Series 72" Riser Door

Net Weight, lbs. (kg): 46 (20.87) Shipping Weight, lbs. (kg): 56 (26)

	Depth, inches (mm)	Height, inches (mm)
Specifications	1/8 (22.2)	23 (584.2)

WARNING

- Do not open more than one loaded drawer at a time.
- Keep children away.
- Close lid, lock drawers and doors before moving.
- Apply brakes on locking casters when not moving unit.
- Do not step in or on drawers.
- Secure units together with fasteners.
- Do not pull; push to move.
- Wear gloves when lifting by edges.
- Keep feet and fingers clear of edges when stacking, hanging, or moving units.
- Read additional safety precautions on pages M1 to M4.

See Warranty Information on inside front cover.

KRA Family

It's all about value

Made by Snap-on®

Nobody knows more about tools than Snap-on®, and that includes storing, organizing and protecting them. And nobody offers more tool storage product choices than Snap-on®. Our KRA series offers a unique combination of performance and value—hard working, long lasting storage units that make professional quality available and affordable to just about everyone. Make no mistake, these aren't mass-merchandise quality. These are Snap-on® quality throughout, and they are available in a selection of roll cabs, top chests, portable chests, end cabinets, drawer sections, lockers and workspace risers and overhead storage units.

It's all about value. The KRA series defines value as professional quality, wide selection and affordability. It is our purpose to make owning a Snap-on® tool storage system a rewarding experience for you.

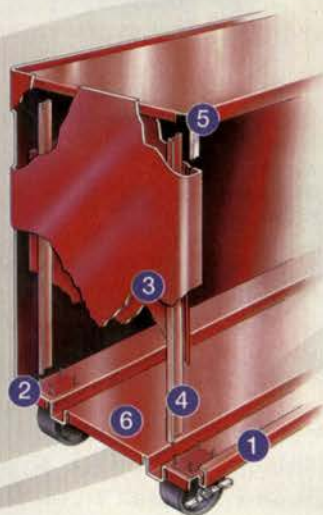
Features

- Heavy duty 6"x 2" casters on all 53" KRA5000 and 40" KRA4000 Series
- Lock'n Roll™ Drawers on all 5000 & 4000 Series
- Non-slip liners on 5000 Series
- Round key lock on all KRA Family products
- Rolled edges on all drawers
- Full double wall construction
- Z shaped stiffeners between walls for rigid support of drawers
- Caster plates welded to bottom panel



53" 5000 Series

- 1 Rolled Edges
Reduce the potential of injuries caused by sharp edges and add strength.
- 2 Caster Plates and Weldnuts
Caster screws pass through double thick steel plates and weldnuts.
- 3 Full Double Wall Construction
Features two full sized layers of heavy duty steel to provide strength and durability.
- 4 Z-Shaped Stiffeners
Between walls prevent creases to the outside walls.
- 5 Reinforcement Gussets
Inside each corner helps protect corners from racking (going out of square.)
- 6 One Piece Bottom Panel
The combination of one piece bottom panel and carefully placed U-channels greatly increases the strength of the roll cab.





26" 4000 Series



40" 4000 Series

Accessories



End Cabs



Lockers



Risers/Overheads/Doors

KRA... it all adds up to better value from Snap-on®

KRA Series Combinations



KRA2007

KRA5208
(pg. 45)



KRA5012
(pg. 48)

KRA5213
(pg. 43)

KRA5213 Series Combination

45,997 cubic inches

Height: 58 1/4"

Width: 70"

Depth: 19 3/4"

KRA2055

Classic Combination

13,816 cubic inches

Height: 54 21/32"

Width: 26 23/32"

Depth: 19 13/16"

Available in red only.

All KRA 4000 and 5000 Series Units Are Available in 3 Colors.
Use Base Stock Number for Red.
Add Suffix to Base Stock Number for Special Colors.



KRA Series Combinations

Tool Storage

KRA5208
(pg. 45)



KRA5319
(pg. 43)

KRA5319 Series Combination

32,516 cubic inches

Height: 58 1/4"

Width: 53 3/8"

Depth: 19 3/4"

KRA4810A
(pg. 46)



KRA4860A
(pg. 47)

KRA4813
(pg. 44)

KRA4820A
(pg. 48)

KRA4813 Series Combination

31,940 cubic inches

Height: 67 3/4"

Width: 56"

Depth: 19 3/4"



WARNING

- Do not open more than one loaded drawer at a time.
- Keep children away.
- Close lid, lock drawers and doors before moving.
- Apply brakes on locking casters when not moving unit.
- Do not step in or on drawers.
- Secure units together with fasteners.
- Do not pull; push to move.
- Wear gloves when lifting by edges.
- Keep feet and fingers clear of edges when stacking, hanging, or moving units.
- Read additional safety precautions on pages M1 to M4.



KRA Series Combinations



KRA4114A
(pg. 46)

KRA4107B
(pg. 44)

KRA4107 Series Combination

24,999 cubic inches

Height: 58 1/4"

Width: 40"

Depth: 19 3/4"



KRA4014A
(pg. 46)

KRA4007B
(pg. 44)

KRA4007B Series Combination

15,554 cubic inches

Height: 57 1/4"

Width: 26 1/2"

Depth: 19 3/4"

All KRA 4000 and 5000 Series Units Are Available in 3 Colors.
Use Base Stock Number for Red.
Add Suffix to Base Stock Number for Special Colors.



▲ Read safety precautions on pages M1 to M4.

KRA Roll Cabs

Tool Storage

KRA5319 Series Roll Cab

Cubic inches (cm³): 19,546 (320,300)

Load Capacity, lbs. (kg): 2800 (1270)

Net Weight, lbs. (kg): 371 (168)

Square inches (cm²): 5,206 (33,590)

Shipping Weight, lbs. (kg): 436 (198)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	19	53 ¹ / ₃₂ (1356.5)	19 ¹ / ₁₆ (503.2)	38 ¹ / ₁₆ (985.8)
Drawers	4	11 ¹ / ₃₂ (285)	17 ¹ / ₂ (444.5)	1 ¹ / ₂ (41.3)
	6	11 ¹ / ₃₂ (285)	17 ¹ / ₂ (444.5)	3 ¹ / ₈ (92.1)
	1	11 ¹ / ₃₂ (285)	17 ¹ / ₂ (444.5)	7 ¹ / ₈ (193.7)
	1	11 ¹ / ₃₂ (285)	17 ¹ / ₂ (444.5)	11 ¹ / ₃₂ (297.7)
	2	21 ¹ / ₃₂ (543.7)	17 ¹ / ₂ (444.5)	1 ¹ / ₂ (41.3)
	3	21 ¹ / ₃₂ (543.7)	17 ¹ / ₂ (444.5)	3 ¹ / ₈ (92.1)
	1	21 ¹ / ₃₂ (543.7)	17 ¹ / ₂ (444.5)	7 ¹ / ₈ (193.7)
	1	34 ¹ / ₃₂ (881.9)	17 ¹ / ₂ (444.5)	3 ¹ / ₈ (92.1)

KRA5319

KRA5319PC

KRA5319PCM

KRA5213

KRA5213 Series Roll Cab

Cubic inches (cm³): 20,340 (333,310)

Load Capacity, lbs. (kg): 2800 (1270)

Square inches (cm²): 5,427 (35,010)

Net Weight, lbs. (kg): 351 (159)

Shipping Weight, lbs. (kg): 416 (189)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	13	53 ¹ / ₃₂ (1356.5)	19 ¹ / ₁₆ (503.2)	38 ¹ / ₁₆ (985.8)
Drawers	2	11 ¹ / ₃₂ (288.1)	17 ¹ / ₂ (444.5)	1 ¹ / ₃₂ (43.7)
	3	11 ¹ / ₃₂ (288.1)	17 ¹ / ₂ (444.5)	3 ¹ / ₈ (94.5)
	1	11 ¹ / ₃₂ (288.1)	17 ¹ / ₂ (444.5)	11 ¹ / ₃₂ (297.7)
	2	34 ¹ / ₃₂ (881.9)	17 ¹ / ₂ (444.5)	1 ¹ / ₂ (41.3)
	4	34 ¹ / ₃₂ (881.9)	17 ¹ / ₂ (444.5)	3 ¹ / ₈ (92.1)
	1	34 ¹ / ₃₂ (881.9)	17 ¹ / ₂ (444.5)	7 ¹ / ₈ (193.7)

KRA5213PC

KRA5213PCM



WARNING



- Do not open more than one loaded drawer at a time.
- Keep children away.
- Close lid, lock drawers and doors before moving.
- Apply brakes on locking casters when not moving unit.
- Do not step in or on drawers.
- Secure units together with fasteners.
- Do not pull; push to move.
- Wear gloves when lifting by edges.
- Keep feet and fingers clear of edges when stacking, hanging, or moving units.
- Read additional safety precautions on pages M1 to M4.

KRA Roll Cabs

KRA4007B

KRA4007BPC



KRA4007BPCM

KRA4007B Series Roll Cab

Cubic inches (cm³): 9,374 (153,610)
Square inches (cm²): 2,621 (16,910)

Load Capacity, lbs. (kg): 1,120 (508)
Net Weight, lbs. (kg): 208 (94)
Shipping Weight, lbs. (kg): 238 (108)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	7	26 ²³ / ₃₂ (678.7)	19 ¹³ / ₁₆ (503.2)	37 ⁷ / ₁₆ (950.9)
Drawers	2	21 ¹ / ₈ (542.9)	17 ¹⁷ / ₃₂ (445.3)	1 ¹³ / ₃₂ (35.7)
	4	21 ¹ / ₈ (542.9)	17 ¹⁷ / ₃₂ (445.3)	3 ¹³ / ₃₂ (91.3)
	1	21 ¹ / ₈ (542.9)	17 ¹⁷ / ₃₂ (445.3)	7 ¹³ / ₃₂ (194.5)

KRA4107B Series Roll Cab

Cubic inches (cm³): 15,253 (249,950)
Square inches (cm²): 4,265 (27,520)

Load Capacity, lbs. (kg): 2,800 (1270)
Net Weight, lbs. (kg): 275 (125)
Shipping Weight, lbs. (kg): 305 (138)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	7	40 (1016)	19 ¹³ / ₁₆ (503.2)	38 ¹³ / ₁₆ (985.8)
Drawers	2	34 ¹¹ / ₁₆ (881.1)	17 ¹⁷ / ₃₂ (445.3)	1 ¹³ / ₃₂ (38.9)
	4	34 ¹¹ / ₁₆ (881.1)	17 ¹⁷ / ₃₂ (445.3)	3 ¹³ / ₃₂ (91.3)
	1	34 ¹¹ / ₁₆ (881.1)	17 ¹⁷ / ₃₂ (445.3)	7 ¹³ / ₃₂ (194.5)

KRA4107B

KRA4107BPC



KRA4107BPCM

KRA4813

KRA4813PC



KRA4813PCM

KRA4813 Series Roll Cab

Cubic inches (cm³): 14,529 (238,100)
Square inches (cm²): 4,030 (26,000)

Load Capacity, lbs. (kg): 2,800 (1,270)
Net Weight, lbs. (kg): 297 (135)
Shipping Weight, lbs. (kg): 327 (148)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	13	40 (1016)	19 ¹³ / ₁₆ (503.2)	38 ¹³ / ₁₆ (985.8)
Drawers	4	11 ¹ / ₃₂ (285)	17 ¹ / ₂ (444.5)	1 ¹³ / ₃₂ (40.5)
	1	11 ¹ / ₃₂ (285)	17 ¹ / ₂ (444.5)	3 ¹³ / ₃₂ (91.3)
	1	11 ¹ / ₃₂ (285)	17 ¹ / ₂ (444.5)	11 ¹ / ₁₆ (290.5)
	2	21 ¹³ / ₃₂ (543.7)	17 ¹ / ₂ (444.5)	1 ¹³ / ₃₂ (40.5)
	3	21 ¹³ / ₃₂ (543.7)	17 ¹ / ₂ (444.5)	3 ¹³ / ₃₂ (91.3)
	1	21 ¹³ / ₃₂ (543.7)	17 ¹ / ₂ (444.5)	7 ¹³ / ₃₂ (192.9)
	1	34 ²³ / ₃₂ (881.9)	17 ¹ / ₂ (444.5)	3 ¹³ / ₃₂ (91.3)

All KRA 4000 and 5000 Series Units Are Available in 3 Colors.
Use Base Stock Number for Red.
Add Suffix to Base Stock Number for Special Colors.



RED Base Stock No.
BLACK PC
ROYAL BLUE PCM

KRA Top Chests

Tool Storage



KRA5315 Series Top Chest

Cubic inches (cm³): 10,758 (176,324) Net Weight, lbs. (kg): 224 (101.6)
 Square inches (cm²): 4,065 (26,227) Shipping Weight, lbs. (kg): 298 (135)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	15	53 1/8 (1,355.7)	19 1/16 (503.2)	20 (508.0)
Drawers	6	11 1/16 (284.1)	17 1/2 (444.5)	1 1/8 (40.6)
	4	11 1/16 (284.1)	17 1/2 (444.5)	3 3/8 (91.4)
	2	21 1/8 (542.9)	17 1/2 (444.5)	1 1/8 (40.6)
	2	21 1/8 (542.9)	17 1/2 (444.5)	3 3/8 (91.4)
	1	34 1/16 (881.0)	17 1/2 (444.5)	3 3/8 (91.4)

KRA5315PCM

KRA5208 Series Top Chest

Cubic inches (cm³): 12,970 (212,540) Net Weight, lbs. (kg): 224 (102)
 Square inches (cm²): 4,191 (27,040) Shipping Weight, lbs. (kg): 269 (122)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	8	53 1/32 (1356.5)	19 1/16 (503.2)	19 1/32 (492.9)
Top Compartment		52 1/16 (1328.7)	18 1/32 (462.8)	4 1/32 (119.9)
Drawers	2	11 1/32 (288.1)	17 1/2 (444.5)	1 1/8 (41.3)
	2	11 1/32 (288.1)	17 1/2 (444.5)	3 3/8 (92.1)
	2	34 29/32 (881.9)	17 1/2 (444.5)	1 1/8 (41.3)
	2	34 23/32 (881.9)	17 1/2 (444.5)	3 3/8 (92.1)

KRA5208

KRA5208PC



KRA5208PCM



KRAH5330PC

KRAH5330PCM

KRAH5330 Series Bulk Top Chest

Cubic inches (cm³): 21,146 (346,521) Net Weight, lbs. (kg): 147 (67)
 Square inches (cm²): 1,057 (6,819) Shipping Weight, lbs. (kg): 190 (86)

	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Overall	53 1/8 (1,355.7)	19 1/16 (503.2)	20 (508.0)



WARNING



- Do not open more than one loaded drawer at a time.
- Keep children away.
- Close lid, lock drawers and doors before moving.
- Apply brakes on locking casters when not moving unit.
- Do not step in or on drawers.
- Secure units together with fasteners.
- Do not pull; push to move.
- Wear gloves when lifting by edges.
- Keep feet and fingers clear of edges when stacking, hanging, or moving units.
- Read additional safety precautions on pages M1 to M4.

KRA Top Chests



KRA4014A

KRA4014APC

KRA4014APCM

KRA4114A Series Top Chest

Cubic inches (cm³): 9,746 (159,710)
Square inches (cm²): 3,178 (20,500)

Net Weight, lbs. (kg): 183 (83)
Shipping Weight, lbs. (kg): 213 (97)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	4	40 1/2 (1016.8)	19 1/16 (503.2)	19 3/16 (493.7)
Top Compartment		39 23/32 (1013.6)	18 23/32 (475.5)	4 23/32 (119.9)
Drawers	2	34 1/16 (881.1)	17 1/32 (445.3)	1 1/32 (38.9)
	2	34 1/16 (881.1)	17 1/32 (445.3)	3 1/32 (91.3)

Snap-on

KRA4810A

KRA4114A



KRA4114APC

KRA4114APCM

KRA4810APC

KRA4810A Series Top Chest

Cubic inches (cm³): 9,359 (153,370)
Square inches (cm²): 3,026 (19,520)

Net Weight, lbs. (kg): 196 (89)
Shipping Weight, lbs. (kg): 226 (103)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	8	40 (1016)	19 3/4 (501.7)	19 1/16 (493.7)
Top Compartment		39 23/32 (1013.6)	18 23/32 (475.5)	4 23/32 (119.9)
Drawers	2	11 1/32 (283.4)	17 1/32 (445.3)	1 1/32 (38.9)
	2	11 1/32 (283.4)	17 1/32 (445.3)	3 1/32 (91.3)
	2	21 3/8 (283.4)	17 1/32 (445.3)	1 1/32 (38.9)
	2	21 3/8 (283.4)	17 1/32 (445.3)	3 1/32 (91.3)

KRA4810APCM



All KRA 4000 and 5000 Series Units Are Available in 3 Colors.
Use Base Stock Number for Red.
Add Suffix to Base Stock Number for Special Colors.



KRA4860A Series Drawer Section

Cubic inches (cm³): 3,112 (50,997)

Net Weight, lbs. (kg): 115 (52)

Square inches (cm²): 1,216 (7,845)

Shipping Weight, lbs. (kg): 145 (66)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	2	40 (1016)	19 ¹ / ₁₆ (503.2)	9 ¹ / ₁₆ (249.2)
Drawers	1	34 ¹ / ₁₆ (881.1)	17 ¹ / ₃₂ (445.3)	1 ¹ / ₃₂ (35.7)
	1	34 ¹ / ₁₆ (881.1)	17 ¹ / ₃₂ (445.3)	3 ¹ / ₂ (88.9)

**KRA4860A****KRA4860APC**

KRA4860APCM



KRA429F Drawer Section

Cubic inches (cm³): 1,973 (32,332)

Net Weight, lbs. (kg): 44 (20)

Square inches (cm²): 954 (6,155)

Shipping Weight, lbs. (kg): 51 (23)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	3	26 (660.4)	14 ¹ / ₁₆ (379.4)	8 ¹ / ₃₂ (216.7)
Drawers	2	23 ¹ / ₁₆ (601.7)	13 ¹ / ₁₆ (350.8)	1 ¹ / ₂ (38.1)
	1	23 ¹ / ₁₆ (601.7)	13 ¹ / ₁₆ (350.8)	3 ³ / ₃₂ (81.8)



WARNING

- Do not open more than one loaded drawer at a time.
- Keep children away.
- Close lid, lock drawers and doors before moving.
- Apply brakes on locking casters when not moving unit.
- Do not step in or on drawers.
- Secure units together with fasteners.
- Do not pull; push to move.
- Wear gloves when lifting by edges.
- Keep feet and fingers clear of edges when stacking, hanging, or moving units.
- Read additional safety precautions on pages M1 to M4.

KRA End Cabs & Lockers

KRA4830

KRA4830PC



KRA4830 Series End Cab

Cubic inches (cm³): 8,426 (138,080)

Net Weight, lbs. (kg): 76 (35)

Square inches (cm²): 843 (5,439)

Shipping Weight, lbs. (kg): 97 (44)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications		16 1/2 (419.1)	19 1/16 (503.2)	32 1/16 (820.7)
Shelves	2	15 1/32 (381.8)	18 1/8 (473.1)	
Lower Compartment	1	15 1/32 (381.8)	18 1/8 (473.1)	30 (762)

KRA4830PCM

KRA4820A Series End Cab

Cubic inches (cm³): 5,094 (83,476)

Net Weight, lbs. (kg): 117 (53)

Square inches (cm²): 1,174 (7,574)

Shipping Weight, lbs. (kg): 147 (67)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	6	16 1/2 (419.1)	19 1/4 (501.7)	32 1/32 (815.2)
Drawers	2	11 1/32 (283.4)	17 1/32 (445.3)	1 1/16 (39.7)
	3	11 1/32 (283.4)	17 1/32 (445.3)	3 1/2 (88.9)
	1	11 1/32 (283.4)	17 1/32 (445.3)	11 1/32 (297.7)



KRA4820A



KRA4820APC



KRA4820APCM



KRA5012



KRA5012PCM

KRA5012PC

KRA5012 Series Locker

Cubic inches (cm³): 10,177 (166,770)

Net Weight, lbs. (kg): 115 (52)

Square inches (cm²): 1,480 (9,548)

Shipping Weight, lbs. (kg): 145 (66)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	4	16 1/2 (419.1)	19 1/16 (503.2)	51 1/2 (1308.1)
Drawers	2	11 1/32 (288.1)	17 1/2 (444.5)	1 1/8 (41.3)
	2	11 1/32 (288.1)	17 1/2 (444.5)	3 1/8 (92.1)
Shelves	3	12 1/32 (315.1)	18 1/32 (475.5)	11 1/32 (297.7)

KRA Riser, Overhead & Topper

Tool Storage



KRW4040A Series 40" Riser

Load Capacity, lbs. (kg): 115 (43)

Net Weight, lbs. (kg): 48 (22)

Shipping Weight, lbs. (kg): 57 (26)

Specifications	Width,		Depth,		Height,	
	inches	(mm)	inches	(mm)	inches	(mm)
	40	(1016)	14 1/2	(368.3)	23 1/2	(596.9)

KRWL4025 Series 40" Overhead

Cubic inches (cm³): 6,508 (106,650)

Shipping Weight, lbs. (kg): 65 (30)

Square inches (cm²): 570 (3,677)

Net Weight, lbs. (kg): 76 (35)

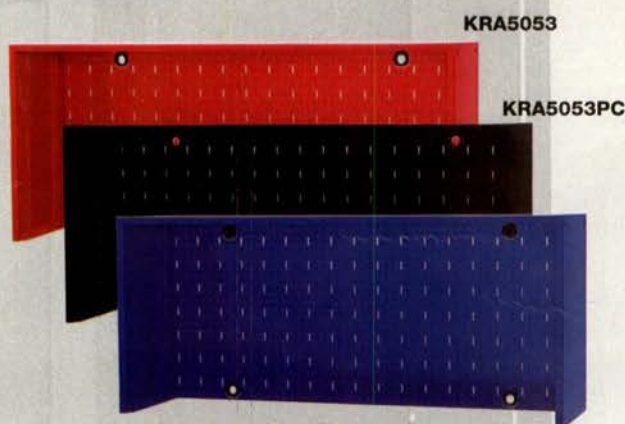
Specifications	Width,		Depth,		Height,	
	inches	(mm)	inches	(mm)	inches	(mm)
	40	(1016)	14 1/2	(368.3)	15 7/8	(404)

KRWL4025PC



KRWL4025

KRWL4025PCM



KRA5053

KRA5053PC

KRW5053 Series 53" Riser

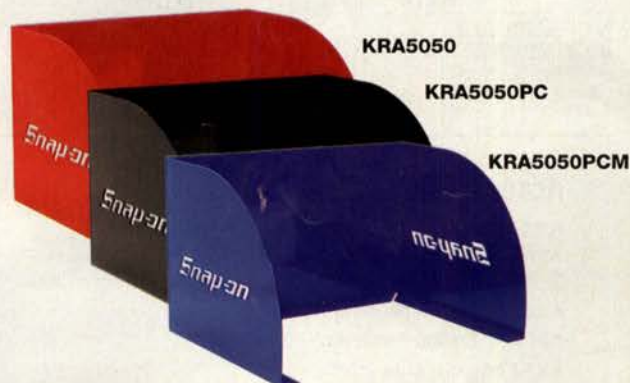
Cubic inches (cm³): 17,809 (291,837)

Shipping Weight, lbs. (kg): 86 (39)

Square inches (cm²): 774 (4,994)

Net Weight, lbs. (kg): 86 (39)

Specifications	Width,		Depth,		Height,	
	inches	(mm)	inches	(mm)	inches	(mm)
	53 3/8	(1355.7)	14 1/2	(368.3)	23	(584.2)



KRA5050

KRA5050PC

KRA5050PCM

WARNING

- Do not open more than one loaded drawer at a time.
- Keep children away.
- Close lid, lock drawers and doors before moving.
- Apply brakes on locking casters when not moving unit.
- Do not step in or on drawers.
- Secure units together with fasteners.
- Do not pull; push to move.
- Wear gloves when lifting by edges.
- Keep feet and fingers clear of edges when stacking, hanging, or moving units.
- Read additional safety precautions on pages M1 to M4.

KRA5050 Series Topper

Cubic inches (cm³): 4,258 (69,776)

Shipping Weight, lbs. (kg): 10.5 (4.76)

Square inches (cm²): 1,818 (11,730)

Net Weight, lbs. (kg): 10 (4.56)

Specifications	Width,		Depth,		Height,	
	inches	(mm)	inches	(mm)	inches	(mm)
	16	(660.4)	12	(304.8)	10	(254)

KRA62C Heavy-Duty Road Chest

Cubic inches (cm³): 8,187 (134,160)

Net Weight, lbs. (kg): 178 (81)

Square inches (cm²): 3,108 (20,050)

Shipping Weight, lbs. (kg): 211 (96)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	10	31 1/2 (789.8)	20 1/16 (515.9)	21 1/32 (539)
Top Compartment		31 (787.4)	19 1/8 (492.1)	4 (101.6)
Drawers	6	8 1/16 (204.2)	18 1/32 (467.5)	1 1/32 (37.3)
	1	8 1/16 (204.2)	18 1/32 (467.5)	4 1/8 (123.8)
	1	29 1/16 (750.9)	18 1/32 (467.5)	1 1/16 (42.9)
	2	29 1/16 (750.9)	18 1/32 (467.5)	2 1/16 (74.6)



KRA63B Tool Chest

Cubic inches (cm³): 5,602 (91,800)

Net Weight, lbs. (kg): 107 (49)

Square inches (cm²): 2,102 (13,560)

Shipping Weight, lbs. (kg): 115 (52)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	9	26 (660.4)	14 1/16 (376.2)	20 1/16 (528.6)
Top Compartment		25 7/32 (656.4)	14 1/2 (368.3)	4 (101.6)
Drawers	6	6 1/16 (176.2)	12 1/32 (324.6)	1 1/4 (44.5)
	2	23 1/8 (587.4)	12 1/32 (324.6)	1 1/8 (41.2)
	1	23 1/8 (587.4)	12 1/32 (324.6)	3 1/8 (79.3)



Accessories for KRA63B

KRAC63A Nylon Cover. Fits KRA63A and KRA63B.

A263 Socket Organizer. Fits in top, below pallet. For square drive tools to 4" deep. Holds four 10 3/8" rows and two 3 1/2" rows of sockets.

A285 "L" Bracket Socket Rail. 7 1/2" long.

A289 "L" Bracket Socket Rail. 10 1/2" long.

A275 Mounting Clips (package of 10). 3/16" to 3/8" (30 included with KRA63B).

A278 Mounting Clips (package of 10). 5/16" to 3/4" (12 included with KRA63B).

A279 Mounting Clips (package of 10). 5/8" to 1 1/4" (6 included with KRA63B).

A280 Mounting Clips (package of 10). 1" to 1 1/8"

8-7562 Snap-On Logo. 24" White adhesive-backed.

KRA Tool Chests

Tool Storage

KRA4055 Tool Chest

Cubic inches (cm³): 4,452 (72,955)
Square inches (cm²): 1,814 (11,703)

Net Weight, lbs. (kg): 91 (41.27)
Shipping Weight, lbs. (kg): 116 (53)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	5	26 (660.4)	14 ²³ / ₃₂ (373.8)	17 ¹ / ₃₂ (437.3)
Top Compartment		25 ¹³ / ₁₆ (655.6)	13 ²³ / ₃₂ (348.4)	3 ²³ / ₃₂ (99.2)
Drawers	4	22 ¹ / ₃₂ (559.6)	13 ¹ / ₃₂ (332.5)	1 ¹ / ₈ (47.6)
	1	22 ¹ / ₃₂ (559.6)	13 ¹ / ₃₂ (332.5)	3 ¹ / ₈ (79.3)



KRA4055PCM

KRA4055PC

KRA4055

KRA4059PCM

KRA4059PC



KRA4059

KRA4059 Tool Chest

Cubic inches (cm³): 4,288 (70,268)
Square inches (cm²): 1,753 (11,309)

Net Weight, lbs. (kg): 92 (41.7)
Shipping Weight, lbs. (kg): 117 (53.1)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	9	26 (660.4)	14 ²³ / ₃₂ (373.8)	17 ¹ / ₁₆ (436.5)
Top Compartment		25 ¹³ / ₁₆ (655.6)	13 ²³ / ₃₂ (348.4)	3 ⁷ / ₃₂ (97.6)
Drawers	6	6 ⁷ / ₃₂ (169.0)	13 ¹ / ₃₂ (332.5)	1 ¹ / ₄ (44.4)
	2	22 ¹ / ₃₂ (559.5)	13 ¹ / ₃₂ (332.5)	1 ¹ / ₈ (47.6)
	1	22 ¹ / ₃₂ (559.5)	13 ¹ / ₃₂ (332.5)	3 ¹ / ₈ (79.3)

WARNING

- Do not open more than one loaded drawer at a time.
- Keep children away.
- Close lid, lock drawers and doors before moving.
- Apply brakes on locking casters when not moving unit.
- Do not step in or on drawers.
- Secure units together with fasteners.
- Do not pull; push to move.
- Wear gloves when lifting by edges.
- Keep feet and fingers clear of edges when stacking, hanging, or moving units.
- Read additional safety precautions on pages M1 to M4.



Modular Units



KRWLC36

Modular Workbench



KRWLA36

Modular Storage Units allow you to custom design work areas or storage walls!

KRWLD36

Modular Workbench Accessories

Optional Wooden Tops. Tough hardwood surfaces are the perfect accessory to make your storage unit double as a full-length workbench. (See page 68).

Caster Hardware. Each modular unit can easily be converted into a spacious, tough roll cab by replacing the bottom skid with the following caster hardware:

8-11639 Swivel Caster. Heavy-duty, 6" x 2" casters include foot-operated lock (2 required)

8-11739 Rigid Caster. Heavy-duty, 6" x 2" casters (2 required)

1-815 Bolt for Cabinet Casters. Four mount each caster (16 required)

7000J50PA Handle Kit.

- Exclusive Snap-on® Lock 'n Roll® drawer latch mechanism keeps closed drawers from opening. Drawers can be released with a slight finger movement from any location along the full-length drawer pull.
- Improved security locking system employs a hardened, free-spinning collar around the exposed area of the lock. Keyed-alike convenience.
- Interchangeable drawers allow for custom arrangements; ie, substitute one 6" for three 2" drawers.
- Bottom skids elevate units above the floor surface—providing fork lift access.
- Heavy-duty quick-disconnect ball bearing drawer slides are standard on all drawers.
- Decorative dress plate included to cover skids.
- Skids are removable and can be replaced with optional casters.
- Heavy-duty double wall construction.
- Optional northern hard maple butcher-block tops provide a tough surface so your storage unit can double as a full-length workbench.

KRWLC36

Cubic inches (cm³): 17,368 (284,610)
Square inches (cm²): 10,039 (64,770)

Net Weight, lbs. (kg): 400 (181)
Shipping Weight, lbs. (kg): 439 (199)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	12	36 (914.4)	29 1/32 (737.4)	33 1/16 (849.3)
Drawers	12	31 1/2 (788.2)	26 7/32 (685.0)	1 1/4 (44.5)

KRWLB36

Cubic inches (cm³): 19,828 (324,920)
Square inches (cm²): 5,019 (32,380)

Net Weight, lbs. (kg): 300 (136)
Shipping Weight, lbs. (kg): 339 (154)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	6	36 (914.4)	29 1/32 (737.4)	33 1/16 (849.3)
Drawers	6	31 1/2 (788.2)	26 7/32 (685.0)	3 1/16 (100.0)

KRWLD36

Cubic inches (cm³): 19,418 (318,200)
Square inches (cm²): 5,856 (37,780)

Net Weight, lbs. (kg): 317 (144)
Shipping Weight, lbs. (kg): 356 (161)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	7	36 (914.4)	29 1/32 (737.4)	33 1/16 (849.3)
Drawers	3	31 1/2 (788.2)	26 7/32 (685.0)	1 1/4 (44.5)
	3	31 1/2 (788.2)	26 7/32 (685.0)	3 1/16 (100.0)
	1	31 1/2 (788.2)	26 7/32 (685.0)	6 1/16 (157.2)

KRWLA36

Cubic inches (cm³): 20,647 (338,340)
Square inches (cm²): 3,346 (21,590)

Net Weight, lbs. (kg): 267 (121)
Shipping Weight, lbs. (kg): 306 (139)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	4	36 (914.4)	29 1/32 (737.4)	33 1/16 (849.3)
Drawers	4	31 1/2 (788.2)	26 7/32 (685.0)	6 1/16 (157.2)

Shop/Industrial

Tool Storage

Find out how to build the modular workstation that's right for you. Ask your Snap-on® representative for brochure SS1423 to configure your unit.

Strength and Durability

- Heavy gauge steel
- Double wall construction
- Heavy-duty ball bearing slides for smooth operation of fully loaded drawers
- Rugged 1.75" hard maple wood top
- "Z" stiffeners between panels to withstand side loads
- Rolled drawer edges keep drawers square and rigid

Accessibility and Convenience

- Keyed-alike components
- Knockouts for electrical applications
- Bottom skids provide forklift access
- Full width drawer and door pulls for simple one-handed operation

Flexibility

- Modular components for easy expansion
- Custom color choices for color coding by department
- Lockers feature adjustable shelves and three-point locking for added security
- Interchangeable drawers for customized arrangements



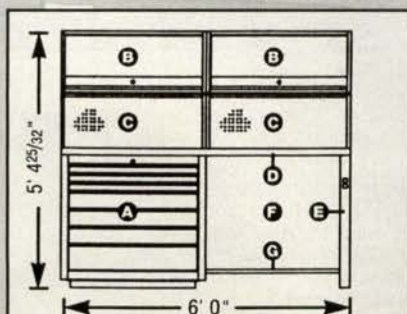
Typical Single-Use Workstation

CKRWL001

Cubic inches (cm³) (Storage Volume): 30,938 (506,980)

Square inches (cm²) (Storage Area): 6,680 (43,100)

	Width,		Depth,		Height,	
	inches	(mm)	inches	(mm)	inches	(mm)
Specifications	72	(1828.8)	30	(762)	65	(1651)



See page 55 for Individual Components

Codes for Colors Available for All Units

Custom color choices are available for all components in this system. Just add the suffix (two or three letter code listed below) to the Base Stock Number for the appropriate color choice.

PF	Teal	PC	High Gloss Black	PDG	Midnight Blue
PAV	Bright Blue	PBC	Brown Texture	PBP	Olive Drab Green
PES	Ultra Yellow	PY	Putty	PU	High Gloss White
PBE	Light Green	PBD	Gray Texture	PBJ	Haze Gray
PBO	Red	PM	Cranberry	PCM	Royal Blue



WARNING

- Do not open more than one loaded drawer at a time.
- Keep children away.
- Close lid, lock drawers and doors before moving.
- Apply brakes on locking casters when not moving unit.
- Do not step in or on drawers.
- Secure units together with fasteners.
- Do not pull; push to move.
- Wear gloves when lifting by edges.
- Keep feet and fingers clear of edges when stacking, hanging, or moving units.
- Read additional safety precautions on pages M1 to M4.



Shop/Industrial



Deluxe Single-Use Workstation

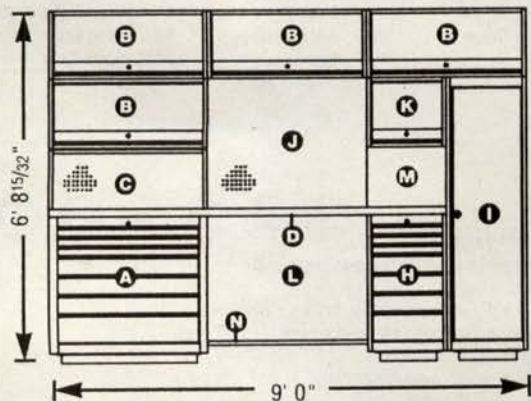
Find out how to build the modular workstation that's right for you. Ask your Snap-on® representative for brochure SS1423 to configure your unit.

CKRWL002

Cubic inches (cm³) (Storage Volume): 67,577 (1,107,400)

Square inches (cm²) (Storage Area): 11,548 (74,500)

	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	108 (2743.2)	30 (762)	81 (2057.4)



See page 55 for Individual Components



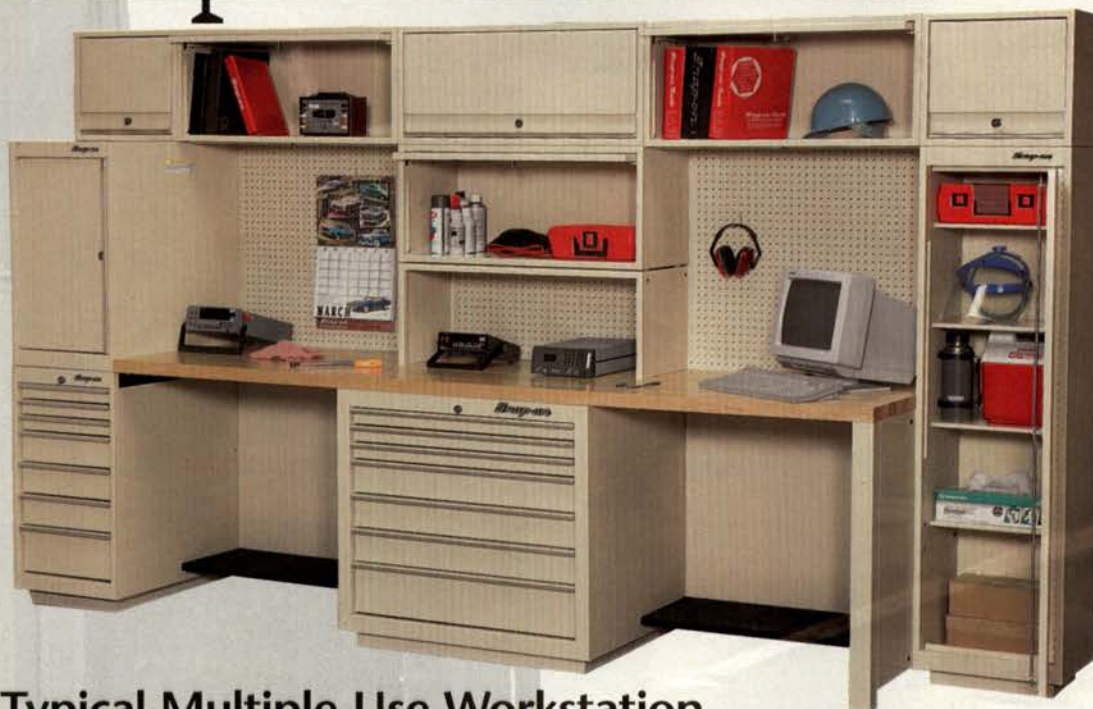
WARNING

- Do not open more than one loaded drawer at a time.
- Keep children away.
- Close lid, lock drawers and doors before moving.
- Apply brakes on locking casters when not moving unit.
- Do not step in or on drawers.
- Secure units together with fasteners.
- Do not pull; push to move.
- Wear gloves when lifting by edges.
- Keep feet and fingers clear of edges when stacking, hanging, or moving units.
- Read additional safety precautions on pages M1 to M4.



Shop/Industrial

Tool Storage



Typical Multiple-Use Workstation

CKRWL003

Cubic inches (cm³) (Storage Volume): 83,981 (1,376,200)
 Square inches (cm²) (Storage Area): 12,645 (81,580)

	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	144 (3657.6)	30 (762)	81 (2057.4)

Codes for Colors Available for All Units

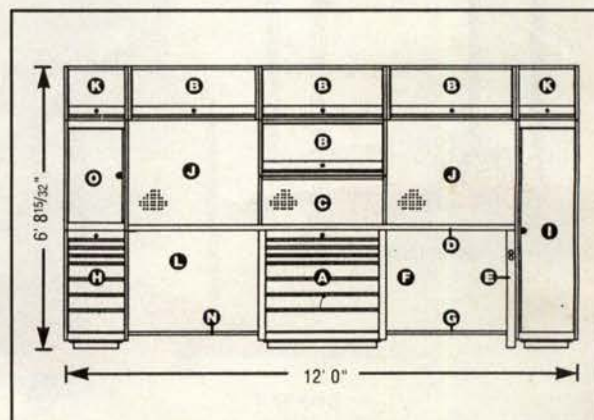
Custom color choices are available for all components in this system. Just add the suffix (two or three letter code listed below) to the Base Stock Number for the appropriate color choice.

PF	Teal	PC	High Gloss Black	PDG	Midnight Blue
PAV	Bright Blue	PBC	Brown Texture	PBP	Olive Drab Green
PES	Ultra Yellow	PY	Putty	PU	High Gloss White
PBE	Light Green	PBD	Gray Texture	PBJ	Haze Gray
PBO	Red	PM	Cranberry	PCM	Royal Blue

Workstation Components

Individual Components		Width		Depth		Height	
Stock No.	Description	in.	(mm)	in.	(mm)	in.	(mm)
A	KRWLD36 Seven Drawer Base Unit	36	(914.4)	29 1/2	(737.4)	33 3/16	(849.3)
B	KRWL3625A Bulk Overhead Unit	36	(914.4)	14 1/2	(368.3)	15 9/16	(404.8)
C	KRW3655 Shelf Package	36	(914.4)	14 1/2	(368.3)	14	(355.6)
D	KRWT36108B Hardwood Work Top for CKRWL003	108	(2743.2)	28 1/16	(722.3)	1 1/4	(44.5)
D	KRWT3690B Hardwood Work Top for CKRWL002	90	(2286)	28 1/16	(722.3)	1 1/4	(44.5)
D	KRWT3672B Hardwood Work Top for CKRWL001	72	(1829)	28 1/16	(722.3)	1 1/4	(44.5)
E	KRW3640 Closed Leg Package	2 1/2	(63.5)	29	(736.6)	33 1/2	(850.9)
F	KRW3370 Lower Back Panel Package	33 1/2	(850.9)	29	(736.6)		
G	KRW3350PV Foot Rest Package	33 1/2	(850.9)	14 1/2	(368.3)		
H	KRWLD18 Seven Drawer Base Unit	18	(457.2)	29	(736.6)	33 3/16	(850.9)
I	KRWL1819 Locker	18	(457.2)	14 1/2	(368.3)	65	(1651)
J	KRW3675 Tall Back Panel Package	36	(914.4)	30	(762)		
K	KRWL1825A Bulk Overhead Unit	18	(457.2)	14 1/2	(368.3)	15 9/16	(406.4)
L	KRW3670 Lower Back Panel Package	36	(914.4)	29	(736.6)		
M	KRW1855 Shelf Package	18	(457.2)	14 1/2	(368.3)	14	(355.6)
N	KRW3650PV Foot Rest Package	36	(914.4)	14 1/2	(368.3)		
O	KRWL1812 Base Unit With Door	18	(457.2)	29	(736.6)	33 1/2	(850.9)
	KRW3645PV Side Top Support						
	KZKP10 Keved-Alike Lock Plugs (not shown)						

Find out how to build the modular workstation that's right for you. Ask your Snap-on® representative for brochure SS1423 to configure your unit.





KR488B

KR488BPB

Metal Roll Carts

KR488B Red Roll Cart.

Two sturdy, 3" deep trays are positioned for convenience. The bottom tray can easily be reached when using a creeper and the top when standing. Slots on the trays permit usage of hanging accessories listed below to add even more convenience and storage space. Made of heavy-gauge steel. 4" casters. 350 lb. load capacity. Measures 16" x 30" x 35 5/16".

KR488BPCN

KR488BPER

KR488BPL

KR4200 Specifications

Cubic inches (cm³): 4,561 (74,740)

Square inches (cm²): 1,228 (7,923)

Weight, Capacity, lbs. (kg): 350 (159)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications	2	30 (762)	16 3/4 (425.5)	35 1/16 (900.1)
Drawers	2	10 1/2 (266.7)	15 1/16 (388.9)	3 1/16 (100)
Bottom Shelf		29 3/4 (755.7)	15 1/4 (400.1)	3 (76.2)
Compartment		24 1/2 (622.3)	15 3/32 (397.7)	4 (101.6)
Prybar Compartment		3 3/4 (82.6)	15 1/8 (396.9)	6 3/4 (171.5)

KR4200 Roll Cart with Lid and Drawer Section. The mobility of a roll cart with the security of a tool chest. Flip-top lid with full-length piano hinge doubles as a 27 1/2" x 16 1/2" work surface. Two locking drawers are secured by a theft-resistant cylinder lock. Prybar section is built into the compartment. A series of holes in various sizes allow long prybars and screwdrivers to be stored vertically.



KRP1HD



KR5000A

KR488B Series Accessories

KR418B-1 Add-on Drawer Kit (Red). Optional 27" x 14" x 4" Locking Drawer for KR488B. Includes drawer liner.

KRR488ACR Rubber Mat.

KAT12PV 12" Spray Can Rack. Holds 3-4 spray cans.

KAT18PV 18" Spray Can Rack. Holds 5-6 spray cans.

KASR12PV Screwdriver Rack. Holds up to seven screwdrivers or other tools.

KALR12PV Literature Bin. Stores manuals, magazines, papers and other printed materials. 12" deep.

KAHR12PV 12" Hammer Rack. Holds 3 hammers. 12" long.

KAS12PV 12" Flat Utility Shelf. Shelf for miscellaneous items.

KR50 Adaptor Plate. For mounting the KRA429F Drawer Section to the KR488B Roll Cart. Instructions and hardware are included with the adaptor plate.



KR4200

KR4200PC

KR4200PM

KR4200PES

KR4200PCM

Heavy-Duty Roll Cart

KR5000A Red Heavy Duty Roll Cart with 2 Shelves. Heavy-gauge steel shelves/frame. Solid rubber 4" x 1 1/2" casters (2 rigid, 2 swivel with brakes). Total load capacity of 500 lb. (227 kg.). Top shelf has a drain hole with a neoprene plug. Mounting holes for optional center shelf.

5000W0860 Red Shelf. Optional kit becomes a center shelf for KR5000.

Polymer Roll Carts

KRP1HD Heavy Duty Polymer Roll Cart, Red/Grey. Heavy duty polymer construction will not scratch painted surfaces, will not corrode and is non-conductive. Top slides in either direction to reveal storage compartment and work surface underneath. Built-in tool holders in handles accept wide variety of screwdrivers, small prybars, pliers and other small to medium hand tools. Drain plugs in both upper and lower trays facilitate clean-up. Measures 43" W x 38 1/2" H x 21 3/4" D. Top tray depth is 3 3/16". Bottom tray depth is 2 13/16". Each tray has 160 lb. (73 kg.) load capacity for a total capacity of 320 lbs. (145 kg.) Red trays with grey lid and legs. Locking swivel casters.

Roll Carts

Tool Storage



KRBC7TPC

KRBC7T

KRBC7TPCM

KRBC7T Roll Cart

Casters: 4" x 1 1/8" (2 locking, 2 standard) Square inches (cm²): 1,923 (11,730)
Cubic inches (cm³): 5,336 (87,933) Total Load Capacity, lbs. (kg): 350 (158.3)

	Quantity	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications		17 1/8 (454.0)	32 (812.8)	36 (914.4)
Top Compartment	—	16 1/16 (417.5)	27 1/16 (703.2)	3 (76.2)
Drawers	2	15 1/16 (388.9)	26 1/16 (681.0)	3 1/16 (96.8)
Bottom Shelf	—	16 1/8 (409.5)	30 1/16 (766.7)	3 (76.2)
Pry Bar Compartment	—	16 1/8 (409.5)	10 1/16 (277.8)	3 1/16 (100.0)

Blue-Point® Roll Carts

KRBC2T Red Roll Cart with 2 Shelves. Rugged, general duty dual shelf roll cart. Trays feature rolled edges for improved strength and rigidity. Trays measure 30" long x 14 1/2" wide x 4" deep. Maximum load capacity is 350 lbs. (159 kg.). (175 lbs. (79 kg.) per tray). Welded post holders. Casters are 4" x 1 1/8" (two locking, two standard). Cart measures 32" long x 17 13/16" deep x 36 7/32" high.

KRBC3T-1 Locking Drawer. Optional add-on locking drawer for KRBC2T.

KRBC3T Red Roll Cart with 2 Shelves and a Locking Drawer. Features locking drawer with tubular lock for added tool security. Drawer measures 14 1/2" wide x 27" long x 4" deep. Two sturdy, 3" deep trays are positioned for convenience. Trays measure 15 1/2" wide x 27" long. 300 lb. (136 kg.) load capacity (150 lb. (68 kg.) per tray). Made of heavy-gauge steel. 4" x 1 1/8" casters (two locking, two standard). Cart measures 32" long x 17 13/16" deep x 36 7/32" high.

KRBC1T Replacement Tray. For KRBC2T/KRBC3T.



KRBC2T



KRBC3T

KRBC4T Roll Cart

Casters: 4" x 1 1/8" (2 locking, 2 standard) Net Weight, lbs. (kg): 67 (30.4)
Load per Tray, lbs. (kg): 150 (68.0) Total Load Capacity, lbs. (kg): 300 (136.0)

	Drawers	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)
Specifications		32 (812.8)	17 1/16 (452.4)	36 1/32 (919.9)
Trays	2	30 (762.0)	15 1/2 (393.7)	3 (76.2)
Drawers	1	27 (685.8)	14 1/2 (368.3)	4 (101.6)



KRBC4T



WARNING

- Do not open more than one loaded drawer at a time.
- Keep children away.
- Close lid, lock drawers and doors before moving.
- Apply brakes on locking casters when not moving unit.
- Do not step in or on drawers.
- Secure units together with fasteners.
- Do not pull; push to move.
- Wear gloves when lifting by edges.
- Keep feet and fingers clear of edges when stacking, hanging, or moving units.
- Read additional safety precautions on pages M1 to M4.



Plastic Boxes, Organizers



YA486



KRP5PB



YA481



YA483

KRP5CAB



YA402

Plastic Boxes

Ideal for a wide range of storage needs. YA481 through YA484 are made of tough, injection molded plastic to ensure a precise fitting lid and durability. Top carrying handle, tension latches, tote tray, and padlock provision are also featured.

YA481 Plastic Box. 14 1/2" x 7 1/4" x 4 1/2".

YA482 Plastic Box. 16 1/2" x 8 1/4" x 6 1/2".

YA483 Plastic Box. 20 1/4" x 9" x 7 3/4".

YA484 Plastic Box. 23 1/8" x 10 1/4" x 10 1/2".

YA486 Plastic Box. 27 1/2" x 13 3/8" x 14".

YA402 Parts Storage Case. Interchangeable partitions allow customizing from 9 to 24 compartments. Rugged polypropylene construction. 14 5/8" x 10 3/4" x 2 5/16".

YA485 Parts Storage Case. Similar to YA402 except interchangeable partitions can form 8 to 32 compartments. 18" x 12" x 3".

KRP5CAB Five Drawer Storage Cabinet. Use to store or inventory small tools and parts. Black, heavy duty polypropylene cabinet with five removable drawers (KRP5PB). Each drawer features a patented, translucent plastic divider system that allows full customization for individual needs. Drawers are easily removable for transport to job location. Units can be stacked or wall mounted. Resistant to common solvents. Cabinet dimensions are 15 1/2" W x 14 1/2" D x 16" H.

KRP5PB Storage Drawer. Plastic storage drawer for KRP5CAB Parts Storage Cabinet. Each drawer features sixteen translucent section dividers for unlimited customizing options. Drawer measures 13 5/8" W x 9 5/8" D x 2 1/4" H.

Tool Organizers

Tool Organizers feature compartmented top trays for hand tools and part storage, V-groove in lid to hold pipes and dowels for sawing, and positive locking latches. KRW200A tub will hold most rechargeable drills and other small power tools. KRW300A tub will hold circular saws and other large items. Larger tote tray on KRW300A stores drills, extension cords, and other bulky items. Adjustable shoulder strap on KRW300A only.

KRW200A Organizer. 16 1/4" x 10" x 12 1/2", 1,165 cu. in. (19,090 cm³) capacity.

KRW200GA Green version of KRW200A.

KRW200OA Orange version of KRW200A.

KRW300A Organizer. 20 3/4" x 13 1/2" x 16 3/4", 4,095 cu. in. (67,110 cm³) capacity.

KRW300GA Green version of KRW300A.

KRW300OA Orange version of KRW300A.



KRW300



KRW300OA



KRW200A



KRW200GA

▲ Read safety precautions on pages M1 to M4.

Plastic Boxes, Tote Trays, Wall Cabs

Plastic Boxes with Steel Drawers (F.O.D. Design)

Portable tool chest designed specifically for Foreign Object Damage (F.O.D.) applications. Accepts both magnetic and foam tool control systems for tool accountability. 22-gauge steel drawers are interchangeable for custom configurations. Standard drawer configuration includes (4) drawers measuring 7 7/8" x 19 9/32" x 1 7/8" and (1) drawer measuring 7 7/8" x 19 9/32" x 4".

Molded polymer one-piece design (handle, latches, strap pins, hinges, and lock hasp) minimizes potential loose pieces that could cause F.O.D. Molded recesses in outer case allow vertical and horizontal stacking. Padded carrying strap for extra comfort.

Capacity specifications listed are based on standard drawer configuration. 17 13/32" high, 24" wide, 10 5/32" deep; with capacities of 759 sq. in. and 1,760 cu. in. Weight 33 lbs.

KRP825PCA Grey Case/Red Drawers
KRP825PCB Olive Case/Red Drawers
KRP825PCC Red Case/Red Drawers



KRP825PCA



KRP825PCC



KRP1001A



KTA3A

Tote Trays

KTA3A Metal Tote Tray. Tubular pull-up handle lifts 1 5/8". Measures 20 1/4" x 8" x 3 1/4" with handle down.

KTA5A Metal Tote Tray. Four rubber feet for nonskid support and a 10" x 6" shelf. 18" x 10" x 4 1/2".

KTA9 Metal Tote Tray. Fits KR274 Series End Cabs. Has four rubber nonskid feet, and tubular pull-up handle. 16" x 10" x 4 19/32" with handle down.

KTAB Metal Tote Tray. Drops in any 14" wide (4" deep) drawers on KRL1000 and KRL700 Series Tool storage units. Four non-skid rubber feet protect finished surfaces from scratching. Raised lips hold tray securely in drawer. Tubular pull-up handle lifts 1 3/4". Measures 10" W x 14 13/16" L x 3 13/16" H with handle down. Red textured finish.

KRP1001A Plastic Tote Tray. Made of tough, rustproof, nonconductive, chemical resistant polymer. Includes two deep end pockets. Bottom drawer is divided into twelve compartments and can be opened from either side. 16 5/8" x 10 1/4" x 6 7/8".



KTA5A



KTA9

Wall Cabinets

Snap-on® wall cabinets provide both security and inventory control. Wall cabinets can be mounted to wall, stationary bench, or roll cab. Ruggedly built of heavy gauge steel for durability. Theft resistant cylinder locks and a two-point locking system provide protection for your tools. See your Snap-on® representative for more information on our wide selection of tool control boards.

Wall Cabs

KRA276D Wall Cabinet. Features PLEXIGLAS® door panels to permit checking tool inventory without opening doors. Cabinet measures 33 7/8" x 24 3/4" x 6".

KRA270C Wall Cabinet. Similar to KRA276D except doors are solid. Measures 33 7/8" x 24 3/4" x 6".

KRA2706KIT Tool Mounting Board Kit. Modifies Snap-on® KRA270C and KRA276D Wall Cabinets into a versatile, secure tool control system. The 24" x 34" sheet metal tool control panel features the Slots-N-Dots™ configuration to deliver a wide variety of tool mounting options. Includes 48 assorted mounting clips for mounting ratchets, extensions, pliers, hammers and other hand tools. Other tool organization components from the Slots-N-Dots™ system like the KASR12PV Screwdriver Holder and KAT12PV/KAT18PV Spray Can Racks can also be used. Panel is pre-drilled for quick installation with included sheet metal screws.



KRA270C



KRA276D

KRW184



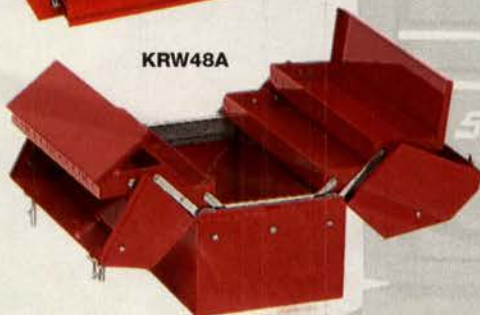
KRU24A



KRA25D



KRW48A



UT22



KRA24



KRW182



KRW183



KRA21G



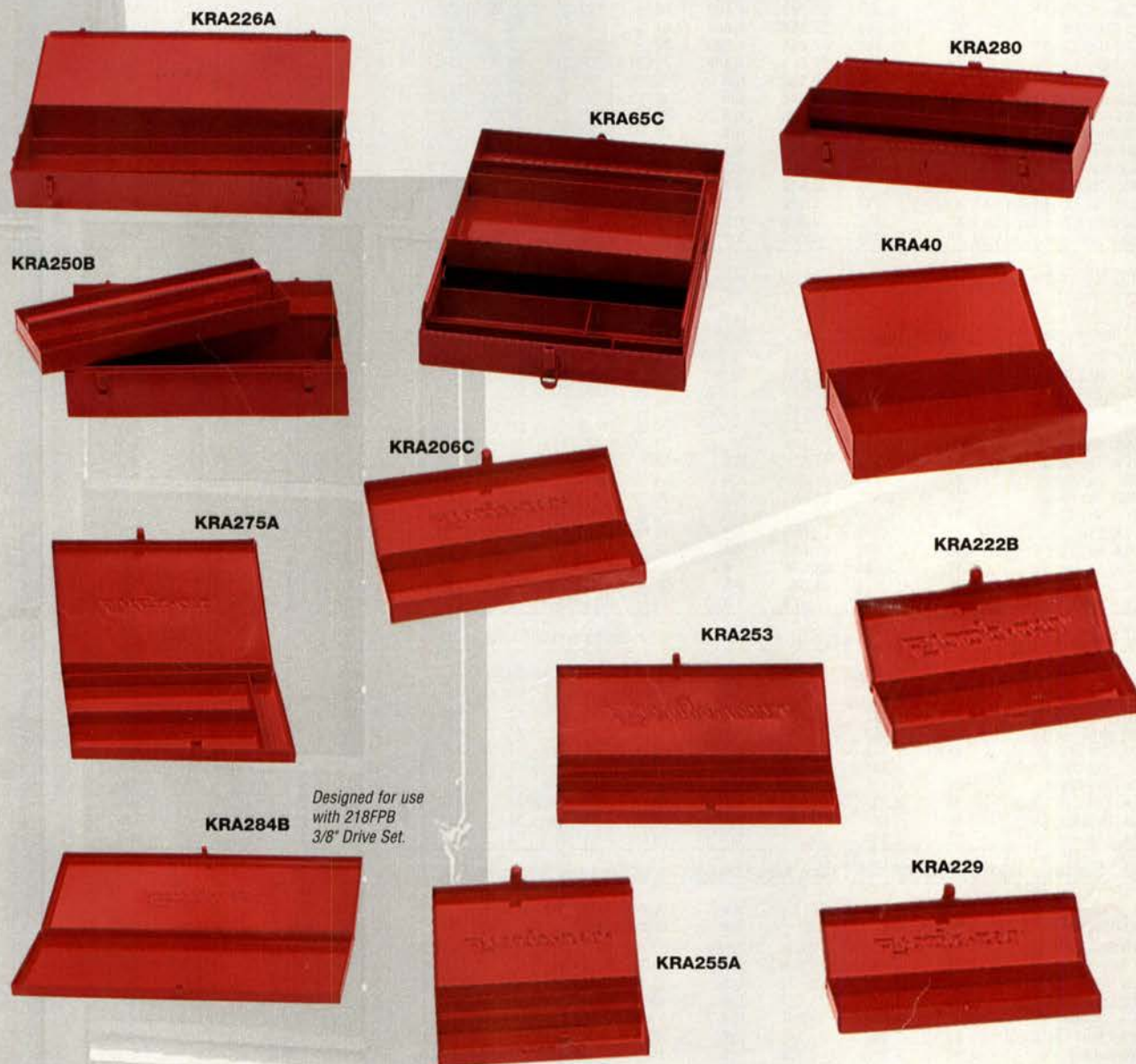
Metal Boxes

Stock No.	Cubic Inches (cm ³)	Square Inches (cm ²)	Dimensions, inches	Description/Features
KRW184	1,851 (30,330)	684 (4413)	20 1/2 x 8 1/2 x 14 1/4 Each Drawer: 17 1/16 x 7 1/16 x 2 1/2	Four drawers lock when lid is closed. Tote tray not included. Net weight: 25 lbs.
KRU24A	2,540 (41,670)	670 (4,323)	24 x 12 x 12 Trays: 21 1/2 x 4 1/32 x 11 1/32	Red textured finish. Load capacity: 125 lbs. Net weight: 27 lbs.
KRU24GA	2,540 (41,670)	670 (4,323)	24 x 12 x 12 Trays: 21 1/2 x 4 1/32 x 11 1/32	Bottom Section: 23 1/32 x 11 1/32 x 7 1/4 Grey textured finish. Load capacity: 125 lbs. Net weight: 27 lbs.
KRA25D	1,568 (25,690)	180 (1,161)	20 1/8 x 8 3/4 x 8 3/4	Bottom Section: 23 1/32 x 11 1/32 x 7 1/4 Includes KTA3A Partitioned Tote Tray.
KRW48A	1,530 (25,070)	476 (3,071)	18 x 10 x 13 1/4	Split top opening for tool access. Cantilever trays on either side of cover, carrying handle.
UT22	1,444 (23,660)	525 (3,387)	Overall: 22 x 8 x 9 4 Small Trays: 22 x 4 x 2	Opens up to expose 5 storage trays; no trays lift out, no drawers to open.
KRA24	1,155 (18,930)	154 (994)	19 1/8 x 7 1/4 x 7 1/2	1 Large Tray: 22 x 8 x 9 Includes partitioned tote tray.
KRA21G	996 (16,320)	486 (3,135)	Overall: 20 3/4 x 8 1/16 x 11 1/4 Top Drawer: 19 1/4 x 7 1/4 x 1 1/16 Bottom Drawer: 19 3/4 x 7 3/4 x 2 1/16 Compartment: 20 1/4 x 8 1/16 x 1 1/16	Includes KTA3A Partitioned Tote Tray. Net weight: 28 lbs. Shipping weight: 32 lbs.
KRW182	1,137 (18,630)	—	18 1/2 x 8 1/2 x 9 1/2	Net weight 12.5 lbs. Shipping weight: 14.5 lbs.
KRW183	1,637 (26,830)	—	Overall: 20 1/32 x 8 1/2 x 12 Each Drawer: 17 1/16 x 7 1/16 x 2 1/2	Drawers lock when lid is closed, Includes tote tray. Net weight: 20 lbs.

▲ Read safety precautions on pages M1 to M4.

Metal Boxes

Tool Storage



Metal Boxes

Stock No.	Cubic Inches (cm ³)	Square Inches (cm ²)	Dimensions, inches	Description/Features
KRA226A	885 (14,500)	236 (1,523)	26 1/4 x 9 x 3 1/8	Includes lengthwise partition. Ideal for 1/4" drive socket storage.
KRA280	600 (9,832)	167 (1,077)	23 1/8 x 7 1/2 x 3 7/32	Features top handle on cover, latches, and padlock hasp.
KRA250B	578 (9,472)	122 (787)	18 1/2 x 6 1/4 x 5	Compartments for sockets, ratchets and extensions. Top handle on cover, latches, and padlock hasp. Includes tote tray.
KRA65C	294 (4,818)	85 (548)	11 3/4 x 7 3/8 x 3 1/2	Top section moves back on side runners. Various size tool compartments.
KRA40	104 (1,704)	52 (336)	9 1/2 x 5 1/2 x 2	Ideal for small tool sets or parts.
KRA275A	47 (770)	47 (303)	8 1/8 x 5 1/8 x 1	Compartments for sockets, ratchets, and extensions. Spring clip secures lid.
KRA206C	31 (508)	25 (161)	8 1/8 x 3 1/8 x 1 1/4	For 1/2" drive universals. Spring-type latch.
KRA284B	135 (2,212)	108 (697)	19 1/4 x 5 3/8 x 1 1/4	Designed for use with 218FPB 3/8" Drive Set. Spring-type latch.
KRA253	70 (1,147)	55 (355)	11 1/4 x 4 1/4 x 1 1/4	Great for 1/4" or 1/8" drive starter sets. Compartments for drivers, metric, and standard sockets.
KRA255A	27 (443)	27 (174)	6 3/32 x 4 1/16 x 1	Two lengthwise partitions hold 1/4" drive components. Spring-type latch.
KRA229	21 (344)	18 (116)	7 1/16 x 2 3/8 x 1 3/16	Will hold up to 3/8" drive universals. Spring-type latch.
KRA222B	18 (295)	15 (97)	6 1/16 x 2 3/8 x 1 3/16	Lengthwise partition for 1/4" square drive units. Spring-type latch.

See Warranty Information on inside front cover.

Tool Storage

KRL7000 Series / Specifications (See page listed for complete product specifications.)

Stock No. / Description	Page	Sq. Inch Cap.	Cu. Inch Cap.	Load Cap.	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)	No. of Drawers	No. of Shelves/Trays	Net Weight (lb.)
KRL7001A Roll Cab**	26	5,762	19,105	3,600	35 1/32 (880.3)	29 1/32 (739.0)	39 1/32 (1012.0)	7	0/1	359
KRL7002A Roll Cab**	26	8,233	28,507	4,800	54 1/4 (1378.0)	29 1/32 (739.0)	40 1/32 (1037.4)	12	1/3	585
KRL7022 Roll Cab**	27	6,346	25,864	4,800	54 1/8 (1381.1)	29 1/8 (739.7)	40 1/16 (1036.6)	11	0/3	650
KRL7003B Roll Cab**	26	11,383	37,454	6,000	72 1/8 (1851.0)	29 1/32 (739.0)	41 1/8 (1050.9)	20	1/3	822
KRL7023 Roll Cab**	27	11,499	37,812	4,800	72 1/8 (1851.0)	29 1/8 (739.7)	40 1/16 (1036.6)	19	0/3	822
KRL7011A End Cab	33	2,756	9,139	N/A	19 1/32 (500.9)	29 1/32 (739.0)	32 1/32 (835.8)	7	0/0	230
KRL7015A Bulk End Cab	34	1,094	9,770	N/A	19 1/32 (500.9)	29 1/32 (739.0)	32 1/32 (835.8)	2	1/0	142
KRL7012 Locker	35	3,564	26,085	N/A	24 1/16 (611.2)	29 1/32 (739.0)	57 1/32 (1470.8)	4	3/2	285
KRL1018 Docker Locker*	36	1,578	29,139	N/A	24 1/16 (611.2)	29 1/32 (739.0)	57 1/32 (1470.8)	0	1/0	190
KRW7554 Riser Kit	37	1,134	22,672	N/A	54 (1371.6)	21 (533.4)	23 1/2 (596.9)	0	0/0	64
KRW7568 Riser Kit	37	1,428	28,950	N/A	68 (1736.7)	21 (533.4)	23 1/2 (596.9)	0	0/0	48
KRW7572 Riser Kit	37	1,512	30,520	N/A	72 (1828.8)	21 (533.4)	23 1/2 (596.9)	0	0/0	78
KRWL3435 Bulk Overhead Unit	37	714	8,239	N/A	34 (863.6)	14 1/2 (368.3)	15 1/16 (404.8)	0	0/0	56
KRWL3635 Bulk Overhead Unit	37	407	5,863	N/A	36 (914.4)	14 1/2 (368.3)	15 1/16 (404.8)	0	0/0	56
KRWL5435 Bulk Overhead Unit	37	703	8,943	N/A	54 (1371.6)	14 1/2 (368.3)	15 1/16 (404.8)	0	0/0	76

KRL1000 Series / Specifications (See page listed for complete product specifications.)

Stock No. / Description	Page	Sq. Inch Cap.	Cu. Inch Cap.	Load Cap.	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)	No. of Drawers	No. of Shelves/Trays	Net Weight (lb.)
KRL1001B Roll Cab**	28	9,450	33,314	4,800	54 1/4 (1378.0)	29 1/32 (739.0)	45 1/4 (1149.4)	14	1/3	652
KRL1004 Roll Cab**	28	18,900	66,628	12,000	100 (2743.0)	29 1/32 (739.0)	45 1/8 (1165.0)	28	0/2	1341
KRL1022 Roll Cab**	29	9,563	33,735	4,800	54 1/16 (1379.5)	29 1/8 (739.7)	45 1/16 (1150.9)	13	0/3	720
KRL1003B Roll Cab**	28	12,994	43,816	6,000	72 1/8 (1851.0)	29 1/32 (739.0)	45 1/16 (1163.6)	23	1/3	892
KRL1023 Roll Cab**	29	13,111	44,260	6,000	72 1/8 (1851.0)	29 1/8 (739.7)	45 1/16 (1163.6)	22	0/3	892
KRL1056A Roll Cab**	29	6,585	22,356	3,600	35 1/32 (905.7)	29 1/32 (739.0)	44 1/32 (1124.7)	8	0/1	396
KRL1201A Top Chest	31	7,539	24,622	N/A	54 1/4 (1378.0)	29 1/32 (739.0)	25 1/8 (644.5)	10	0/0	424
KRL1202 Top Chest	31	7,539	24,622	N/A	54 1/4 (1378.0)	29 1/32 (739.0)	25 1/8 (644.5)	10	0/0	424
KRL1203B Top Chest	31	9,982	32,607	N/A	72 1/8 (1851.0)	29 1/32 (739.0)	25 1/8 (644.5)	15	0/0	590
KRL1251 Top Chest	31	5,069	16,528	N/A	35 1/8 (904.9)	29 1/32 (739.0)	25 1/8 (644.5)	5	0/0	267
KRL1011A End Cab	33	3,150	10,695	N/A	19 1/32 (500.9)	29 1/32 (739.0)	37 1/16 (947.7)	8	0/0	267
KRL1015A Bulk End Cab	34	1,094	11,608	N/A	19 1/32 (500.9)	29 1/32 (739.0)	37 1/16 (947.7)	2	1/0	152
KRL1012A Locker	35	3,564	28,446	N/A	24 1/16 (611.2)	29 1/32 (739.0)	62 1/32 (1583.5)	4	3/2	306
KRL1018 Docker Locker*	36	1,578	31,642	N/A	24 1/16 (611.2)	29 1/32 (737.4)	62 1/8 (1584.3)	0	1/0	202
KRL1221 Top Cab	33	2,494	8,189	N/A	19 1/4 (501.4)	29 1/32 (738.9)	25 1/8 (644.5)	5	0/0	170

KRL700 Series / Specifications (See page listed for complete product specifications.)

Stock No. / Description	Page	Sq. Inch Cap.	Cu. Inch Cap.	Load Cap.	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)	No. of Drawers	No. of Shelves/Trays	Net Weight (lb.)
KRL756A Roll Cab**	30	4,677	15,506	3,600	35 1/8 (904.9)	24 (609.6)	39 1/32 (1012)	7	0/1	306
KRL761B Roll Cab**	30	6,682	23,138	3,600	54 1/4 (1378.0)	24 (609.6)	39 1/32 (1012)	12	1/3	489
KRL731 Top Chest	32	3,157	9,959	N/A	35 1/8 (904.9)	24 (609.6)	21 (533.4)	4	0/0	190
KRL751 Top Chest	32	3,449	10,788	N/A	35 1/8 (904.9)	24 (609.6)	21 (533.4)	4	0/0	194
KRL791A Top Chest	32	5,135	16,101	N/A	54 1/4 (1378.0)	24 (609.6)	21 (533.4)	8	0/0	302
KRL711A End Cab	33	2,237	7,418	N/A	19 1/32 (500.9)	24 (609.6)	32 1/32 (835.8)	7	0/0	193
KRL715A Bulk End Cab	34	894	7,984	N/A	19 1/32 (500.9)	24 (609.6)	32 1/32 (835.8)	2	1/0	122
KRL712A Locker	35	2,831	20,568	N/A	24 1/16 (611.2)	23 1/32 (607.2)	53 1/16 (1357.3)	4	3/2	238

KRA5000 Series / Box Specifications (See page listed for complete product specifications.)

Stock No. / Description	Page	Sq. Inch Cap.	Cu. Inch Cap.	Load Cap.	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)	No. of Drawers	No. of Shelves	Net Weight (lb.)
KRA5319 Roll Cab**	43	5,206	19,546	2,800	53 1/32 (1356.5)	19 1/16 (503.2)	38 1/16 (985.8)	19	0	371
KRA5213 Roll Cab**	43	5,427	20,340	2,800	53 1/32 (1356.5)	19 1/16 (503.2)	38 1/16 (985.8)	13	0	351
KRA5208 Top Chest	45	4,191	12,970	N/A	53 1/32 (1356.5)	19 1/16 (503.2)	19 1/32 (492.9)	8	0	224
KRA5012 Locker	48	1,480	10,177	N/A	16 1/2 (419.1)	19 1/16 (503.2)	51 1/2 (1308.1)	4	3	115
KRA5315 Top Chest	45	4,065	10,758	N/A	53 1/8 (1355.7)	19 1/16 (503.2)	15 (508.0)	15	0	224
KRAH5330 Bulk Top Chest	45	1,057	21,146	N/A	53 1/8 (1355.7)	19 1/16 (503.2)	20 (508.0)	0	0	147
KRA5050 Topper	49	1,818	4,258	N/A	16 (406.4)	12 (304.8)	10 (254.0)	0	0	10
KRW5053 Riser	49	668	17,809	N/A	53 1/32 (1356.5)	14 1/2 (368.3)	23 (584.2)	0	0	90

KRA4000 Series / Box Specifications (See page listed for complete product specifications.)

Stock No. / Description	Page	Sq. Inch Cap.	Cu. Inch Cap.	Load Cap.	Width, inches (mm)	Depth, inches (mm)	Height, inches (mm)	No. of Drawers	No. of Shelves	Net Weight (lb.)
KRA4007B Roll Cab*	44	2,621	9,374	1,200	26 1/32 (678.7)	19 1/16 (503.2)	37 1/16 (950.9)	7	0	208
KRA4107B Roll Cab**	44	4,265	15,253	2,800	40 (1016.0)	19 1/16 (503.2)	38 1/16 (985.8)	7	0	275
KRA4813 Roll Cab**	44	4,185	14,359	2,800	40 (1016.0)	19 1/16 (503.2)	38 1/16 (985.8)	13	0	297
KRA4014A Top Chest	46	1,995	6,180	N/A	26 1/32 (678.7)	19 1/16 (503.2)	19 1/32 (492.9)	4	0	119
KRA4114A Top Chest	46	3,178	9,746	N/A	40 1/32 (1016.8)	19 1/16 (503.2)	19 1/16 (493.7)	4	0	183
KRA4810A Top Chest	46	3,026	9,359	N/A	40 (1016.0)	19 1/4 (501.7)	19 1/16 (493.7)	8	0	196
KRA4820A End Cab	48	1,174	5,094	N/A	16 1/2 (419.1)	19 1/4 (501.7)	32 1/32 (815.2)	6	0	117
KRA4860A Drawer Section	47	1,216	3,112	N/A	40 (1016.0)	19 1/16 (503.2)	9 1/16 (249.2)	2	0	115
KRWL4025 Overhead Cabinet	49	570	6,508	N/A	40 (1016.0)	14 1/2 (368.3)	15 1/32 (404.0)	N/A	N/A	570
KRW4040A Riser	49	N/A	N/A	115	40 (1016.0)	14 1/2 (368.3)	23 1/2 (596.9)	N/A	N/A	48
KADK40 Riser Door Kit	49	N/A	N/A	N/A	38 (965.2)	7/8 (22.23)	22 1/2 (571.5)	N/A	N/A	N/A
KRA4830 End Cab	48	843	8,426	N/A	16 1/2 (419.1)	19 1/16 (503.2)	32 1/16 (820.7)	0	2	74

*Caster Size 5x2 (127 x 50.8)

**Caster Size 6x2 (152.4 x 50.8)

Work Surfaces Tool Storage Accessories

KRWT7002A



Hardwood Tops

Northern hard maple butcher-block tops allow roll cabs to double as full length workbenches. Tops are 1 3/4" thick.

Stock No.	Use On	Width, inches	Depth, inches
KRWT1004A	KRL1004A	107 15/16	27 21/32
KRWT661B	KRL661	49 7/8	20 3/16
KRWT711A	KRL711A/KRL715 Series	19 9/16	22 5/8
KRWT756A	KRL756 Series	35 1/8	22 9/16
KRWT761B	KRL761 Series	53 3/4	22 9/16
KRWT773A	KRL773/KRL763 Series	72 3/8	22 9/16
KRWT7001A	KRL7001/KRL1056 Series	35 1/8	27 9/16
KRWT7002A	KRL7002/KRL1001 Series	53 23/32	27 21/32
KRWT7003A	KRL7003/KRL1003 Series	72 11/32	27 21/32
KRWT7011A	KRL7011/KRL7015, KRL1011A/KRL1015 Series	19 9/16	27 21/32
KRWT4800B	KRA4109/KRA4800/KRA4107, KRA3107/KRA3800 Series	39 3/4	19 7/16
KRWT5000A	KRA5213/KRA5319	53 1/16	19 7/16
KRWT3636B	KRWLA36 thru KRWLD36	35 1/2	28 7/16
KRWT3672C	CKRWL001	72	28 7/16
KRWT3690C	CKRWL002	90	28 7/16
KRWT3696C	Modular Series	96	28 7/16
KRWT36108C	CKRWL003	108	28 7/16

KRSST761A



Stainless Steel Work Surfaces

Stainless steel tops turn roll cabs into moveable work benches. Constructed from high grade, 16 gauge 304 stainless steel. Raised front lip keeps sockets and parts from rolling off. Tops are 1 7/8" thick.

Stock No.	Use On	Width, inches	Depth, inches
KRSST711	KRL711A/KRL715 Series	19 7/8	23 7/8
KRSST756	KRL756 Series	35 9/16	23 7/8
KRSST761A	KRL761 Series	54 3/16	23 7/8
KRSST773A	KRL773/KRL763 Series	72 13/16	23 7/8
KRSST1001A	KRL7002/KRL1001 Series	54 3/16	28 31/32
KRSST7003A	KRL7003/KRL1003 Series	72 13/16	28 31/32
KRSST7001	KRL7001/KRL1056 Series	35 9/16	28 31/32
KRSST7011	KRL7011/KRL7015, KRL1011A/KRL1015 Series	19 7/8	28 31/32
KRSST68A	KRL1004 Series	68	29 3/32
KRSST1004A	KRL1004 Series	108 3/8	28 31/32
KRSST5000	KRA5000 Series	53 1/16	19 1/2
KRSST4107	KRA4000 Series	39 3/4	19 1/2



JKRR488R

Ribbed Rubber Mats

Ribbed rubber top mats protect tool storage units from damage. Engineered for maximum service and durability. Will not shrink, curl or separate. Excellent abrasion resistance. Impervious to oil and chemicals.

Stock No.	Use On
JKRR488R	KR488/KRBC2T/KRBC3T Roll Carts
JKRR488AR	KR488A Roll Carts (and later versions)
JKRR711R	KRL711 Series End Cabs
JKRR712R	KRL712 Series Lockers
JKRR756R	KRL756 Series Roll Cabs
JKRR761R	KRL761 Series Roll Cabs
JKRR763R	KRL763 Series Roll Cabs
JKRR10011R	KRL1001 Series Roll Cabs
JKRR1003R	KRL1003 Series Roll Cabs
JKRR1010R	KRL1011/KRL7011/KRL7015, KRLV7015 Series End Cabs
JKRR1056R	KRL1056 Series Roll Cabs
JKRR7012R	KRL7012/KRLV7012 Series Lockers
JKRR379AR	KRA4007/KRA3027/KRA3025 Series Roll Cabs
JKRR3800R	KRA3800/KRA4107/KRA4800 Series Roll Cabs
JKRR3820R	KRA4820/KRA4833 End Cabs, KRA5012 Locker



JKRR711CR

Non-Directional Rubber Mats

Non-directional rubber top mats protect tool storage units from damage. Lightweight, fine textured, all rubber construction. Will not shrink, curl or separate. Cleans easily and quickly. Impervious to oil and chemicals.

Stock No.	Use On
JKRR488ACR	KR488B Roll Carts
JKRR711CR	KRL711 Series End Cabs
JKRR712CR	KRL712 Series Lockers
JKRR756CR	KRL756 Series Roll Cabs
JKRR761CR	KRL761 Series Roll Cabs
JKRR763CR	KRL763 Series Roll Cabs
JKRR10011CR	KRL1001 Series Roll Cabs
JKRR1003CR	KRL1003 Series Roll Cabs
JKRR1010CR	KRL1011/KRL7011, KRL7015/KRLV7015 Series End Cabs
JKRR1056CR	KRL1056 Series Roll Cabs
JKRR7012CR	KRL7012/KRLV7012 Series Lockers
JKRR379ACR	KRA4007/KRA3027/KRA3025 Series Roll Cabs
JKRR3800CR	KRA4107/KRA4800 Series Roll Cabs
JKRR3820CR	KRA4820/KRA4833 End Cabs, KRA5012 Locker

JKAFM2436BK



JKAFM2448BR

Cushioned Floor Mats

Exceptional anti-fatigue properties. Eases lower back stress and leg and foot discomforts from prolonged standing on hard surfaces. Under padding hugs the "smoothest floor surfaces to prevent mat slippage. Skid-resistant diamond plate

mat surface provides sure footing. Mat resists most shop chemicals. Graphics are inlaid PVC for greater wear resistance.

Stock No.	Size, inches
<i>Black Mat with Red Snap-on® logo</i>	
JKAFM2436BK	24 x 36
JKAFM2448BK	24 x 48
JKAFM2460BK	24 x 60
JKAFM2472BK	24 x 72
JKAFM3636BK	36 x 36
JKAFM3648BK	36 x 48
JKAFM3660BK	36 x 60
JKAFM3672BK	36 x 72

Stock No.	Size, inches
<i>Black Mat with Red Border/Red Snap-on® logo</i>	
JKAFM2436BR	24 x 36
JKAFM2448BR	24 x 48
JKAFM2460BR	24 x 60
JKAFM2472BR	24 x 72
JKAFM3636BR	36 x 36
JKAFM3648BR	36 x 48
JKAFM3660BR	36 x 60
JKAFM3672BR	36 x 72

Stock No.	Size, inches
<i>Grey Mat with Black Snap-on® logo</i>	
JKAFM2436GY	24 x 36
JKAFM2448GY	24 x 48
JKAFM2460GY	24 x 60
JKAFM2472GY	24 x 72
JKAFM3636GY	36 x 36
JKAFM3648GY	36 x 48
JKAFM3660GY	36 x 60
JKAFM3672GY	36 x 72

See Warranty Information on inside front cover.

Tool Storage Accessories Drawer Organization

KDDCOMP



KDDPCLIPS



KDDCCLIPS



KDDRAIL



Plastic Drawer Dividers / 2" Drawer Height

KDD402, KDD412, KDD702, KDD712, KDD722, KDD732 SETS ONLY—Each set includes four pre-cut perimeter rails that fit along the inside wall of drawers, four corner clips to attach perimeter rails to each other and an assortment of pre-cut adjustable divider rails and divider clips that match the size of the specified drawer.

KDDU2 SET ONLY—Same as other sets except rails are not pre-cut. All rails must be cut to desired length. Fits any Snap-on® tool storage drawer.

Stock No.	Drawer Style	Inside Drawer Dimensions, inches	Box Depth, inches
KDD402	KRA medium	1.6 H x 21 W x 17 D	All KRA
KDD412	KRA wide	1.6 H x 34.5 W x 17 D	All KRA
KDD702	KRL narrow	1.6 H x 14.4 W x 21.5 D	24
KDD712	KRL narrow	1.6 H x 14.4 W x 26.5 D	29
KDD722	KRL medium	1.6 H x 30.2 W x 21.5 D	24
KDD732	KRL medium	1.6 H x 30.2 W x 26.5 D	29

KDD52-6 Drawer Divider Rail. 5" long drawer divider rails for 2" high drawers. Pack of 6.

KDD72-6 Drawer Divider Rail. 7" long drawer divider rails for 2" high drawers. Pack of 6.

KDD122-6 Drawer Divider Rail. 12" long drawer divider rails for 2" high drawers. Pack of 6.

KDD2-20 Drawer Divider Rail Clips. Rail divider clips for 2" high drawers. Use to attach dividers rails to perimeter rails or to other divider rails. Pack of 20.

KDD2C-4 Perimeter Rail Corner Clips. For 2" high drawers. Use to attach perimeter rails to each other. Pack of 4.

KDD2L-2 Drawer Divider Rail. 35" long universal drawer divider rails for 2" high drawers. Can be cut to any length to fit any drawer storage need. Pack of 2.

KRA17A



Plastic Drawer Dividers

KRA17A Drawer Dividers. Partition drawers by cutting divider to desired length. Attach to drawer with foam backing. 24" long.

KRA27 Drawer Dividers. Partition drawers by cutting divider to desired length. Attach to drawer with foam backing. 31" long.

SPP804-2



Parts Tray Drawer Inserts

Lightweight but tough reinforced polymer construction. Each compartment has an area for labeling, if desired. Use in tool drawers or cart to organize fasteners, clips, etc. Fits into a 2" narrow drawer, such as on KRL761, 711, 791 or 763 models. 1 5/16" H x 14 9/16" W x 21 7/16" D.

SPP804-1 Parts Tray. 14 compartments.

SPP804-2 Parts Tray. 35 compartments.

KRL1F



Drawer Liners / Adhesive Spray

JKRL35F Drawer Liner. Foam drawer liner can be cut to size for lining drawers, roll cab tops, etc. 48" x 25" sheets. Pack of 25.

JKRL35NS Drawer Liner. Non-slip drawer liner can be cut to size for lining drawers, roll cab tops, etc. 48" x 25" sheets. Pack of 25.

KRL1F Drawer Liner. 1/16" thick black polyethylene can be cut to size for lining drawers, roll cab tops, etc. 48" x 25" sheets.

AS6 Adhesive Spray. Ideal for securing KRL1 Drawer Liner. 12 oz. spray can. Also available in 6-pack containers (order 6).

Plastic Drawer Dividers / 4" Drawer Height

KDD404, KDD414, KDD704, KDD714, KDD724, KDD734 SETS ONLY—Each set includes four pre-cut perimeter rails that fit along the inside wall of drawers, four corner clips to attach perimeter rails to each other and an assortment of pre-cut adjustable divider rails and divider clips that match the size of the specified drawer.

KDDU4 SET ONLY—Same as other sets except rails are not pre-cut. All rails must be cut to desired length. Fits any Snap-on® tool storage drawer.

Stock No.	Drawer Style	Inside Drawer Dimensions, inches	Box Depth, inches
KDD404	KRA medium	3.6 H x 21 W x 17 D	All KRA
KDD414	KRA wide	3.6 H x 34.5 W x 17 D	All KRA
KDD704	KRL narrow	3.6 H x 14.4 W x 21.5 D	24
KDD714	KRL narrow	3.6 H x 14.4 W x 26.5 D	29
KDD724	KRL medium	3.6 H x 30.2 W x 21.5 D	24
KDD734	KRL medium	3.6 H x 30.2 W x 26.5 D	29

KDD54-6 Drawer Divider Rail. 5" long drawer divider rails for 4" high drawers. Pack of 6.

KDD74-6 Drawer Divider Rail. 7" long drawer divider rails for 4" high drawers. Pack of 6.

KDD124-6 Drawer Divider Rail. 12" long drawer divider rails for 4" high drawers. Pack of 6.

KDD4-20 Drawer Divider Rail Clips. Rail divider clips for 4" high drawers. Use to attach dividers rails to perimeter rails or to other divider rails. Pack of 20.

KDD4C-4 Perimeter Rail Corner Clips. For 4" high drawers. Use to attach perimeter rails to each other. Pack of 4.

KDD4L-2 Drawer Divider Rail. 35" long universal drawer divider rails for 4" high drawers. Can be cut to any length to fit any drawer storage need. Pack of 2.

KADD29W



KADDBIN



Drawer Organizers / 2" Drawer Depth

Heavy duty drawer organizers for 2" deep drawers. Constructed of rugged .125" thick polyethylene. Tapered compartment front for easy retrieval of small items. Resists most shop chemicals, UV rays and cracking. All organizers are black.

KADDBIN Front Bin Drawer Organizer. 5 compartments. Use in front section of all 2" deep drawers. Measures 3 1/2" x 10 1/2".

KADD20W Wide Drawer Organizer. 16 compartments. Use on wide 2" deep drawers on KRA4107, 4114, 4860, 3107, 3114, 3860 plus KIQ7107 and 7114. Measures 17" x 34 1/4".

KADD24N Narrow Drawer Organizer. 10 compartments. Use on narrow 2" deep drawers on KRL761, 791, 773, 793, and 711. Measures 14 1/4" x 21 1/4".

KADD24W Wide Drawer Organizer. 15 compartments. Use on wide 2" deep drawers on KRL761, 791, 756, 751, 773, 793 and 777. Measures 21 1/4" x 30 1/8".

KADD29N Narrow Drawer Organizer. 11 compartments. Use on narrow 2" deep drawers on KRL1003, 1203, 7003, 1001, 1201, 7002, 1011 and 7011. Measures 14 1/4" x 26 1/2".

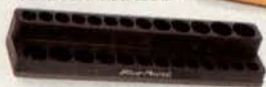
KADD29W Wide Drawer Organizer. 19 compartments. Use on wide 2" deep drawers on KRL1003, 1203, 7003, 7002, 7001, 1201, 1001, 1056 and 1251 plus KRWL Modular Storage units. Measures 26 1/2" x 30 1/8".

Hand Tool Organization Tool Storage Accessories

KMAG38S120

KMAG38D12R

KMAG14SD26B



Magnetic Socket Holders

Magnetic base affixes to any ferrous metal without scratching surface. Sockets will stay in holder even in upside down applications. Non-transferable magnetic material will not magnetize tools or damage on-board automotive computers or other related circuitry. Resists most shop chemicals. Rubber base won't mar finishes. Sockets are not included.

Holds 13 shallow and 13 deep 1/4" drive sockets (1/4" thru 9/16" SAE and 4 thru 14mm):

KMAG14SD26B Magnetic Socket Holder. Black.

KMAG14SD26O Magnetic Socket Holder. Orange.

KMAG14SD26R Magnetic Socket Holder. Red.

Holds 12 shallow 3/8" drive sockets (up to 1" SAE / 24mm):

KMAG38S12B Magnetic Socket Holder. Black.

KMAG38S12O Magnetic Socket Holder. Orange.

KMAG38S12R Magnetic Socket Holder. Red.

Holds 12 deep 3/8" drive sockets (up to 1" SAE / 24mm):

KMAG38D12B Magnetic Socket Holder. Black.

KMAG38D12O Magnetic Socket Holder. Orange.

KMAG38D12R Magnetic Socket Holder. Red.



KTA500



A263

Multi-Row Socket Trays

Portable Socket Holders. Steel panel units have socket rails attached and a carrying handle. U.S. Patent No. 5,284,245 applies.

A262 Socket Holder. Three-row organizer, 14 1/2" x 4 13/16".

A263 Socket Holder. Fits in top, below pallet. For square drive tools to 4" deep. Holds four 10 3/8" rows and two 3 1/2" rows of sockets. U.S. Patent No. 5,284,245 applies. Five-row organizer, 10 1/8" x 8 1/4".

A284 Socket Holder. Steel panel units have socket rails attached and a carrying handle. U.S. Patent No. 5,284,245 applies. Six-row organizer, 14 1/2" x 10 1/8".

A286 Socket Holder. Seven-row organizer, 14 1/2" x 11 7/16".

A288 Socket Holder. Ten-row organizer, 14 1/2" x 17 3/16". Two handles.

KTA500 Five Rail Socket Tray. Holds up to 80 sockets in 1/4", 3/8", and 1/2" drive sizes. Features one rail with (16) 1/4" drive clips, two rails with (16) 3/8" drive clips each and two rails with (16) 1/2" drive clips each. Aligns sockets for fast, easy selection. Use on roll carts and will fit into most roll cab/tool chest drawers. Overall length of 20". Tray length of 17 1/2" x 7 9/16" width x 2 1/2" depth. Made of heavy gauge steel.

YA38UR



YA38SMREH



YA38TMREH



Socket Organizer System

Clip Features: Rounded head for easy socket engagement. Clip provides smooth spring action for consistent feel. Durable and long lasting. Will not corrode.

Organizer Rail Features: Clips are easily attached and positioned. Includes fractional and metric ID stickers. Organizer overall length is 18 1/8" for all square drive sizes. Hang from hook or store in drawer. Designed with special fasteners to quickly and easily mount on Slots 'n Dots™ risers and panels. Organizers stand upright, even with large sockets. Clips can be mounted on both sides of organizer rail.

YA14UR Socket Rail Organizer. Includes (20) 1/4" drive clips.

YA14SMREH Side Mount Holder. For (1) 1/4" drive ratchet and extension.

Use with YA14UR Organizer.

YA14TMREH Face Mount Holder. For (1) 1/4" drive ratchet and extension.

Use with YA14UR Organizer.

YA14URCLIPS Clips. 1/4" drive clips for the YA14UR Organizer Rail. Bag of 25.

YA38UR Socket Rail Organizer. Includes (18) 3/8" drive clips.

See Warranty Information on inside front cover.



KMAGBIT37R

Magnetic Hex Bit Holders / Rubber Base

Magnetic base affixes to any ferrous metal without scratching surface. Bits will stay in holder even in upside down applications. Non-transferable magnetic material will not magnetize tools or damage on-board automotive computers or other related circuitry. Resists most shop chemicals. Rubber base won't mar finishes. Holds 37 bits. Bits are not included.

KMAGBIT37B Magnetic Hex Bit Holder. Black.

KMAGBIT37O Magnetic Hex Bit Holder. Orange.

KMAGBIT37R Magnetic Hex Bit Holder. Red.

Magnetic Socket Trays

Hold metric or fractional sockets in these molded ABS plastic trays. Handle for easy movement to job sites.

For 1/4" drive sockets. 26 compartments. Storage for 13 standard, 13 deep sockets:

MR1426 Magnetic Socket Tray. Orange.

MR1426BL Magnetic Socket Tray. Black.



For 3/8" drive sockets. 28 compartments. Storage for 14 standard, 14 deep sockets:

MR3828 Magnetic Socket Tray. Orange.

MR3828BL Magnetic Socket Tray. Black.



Socket Trays



KTA231B

Stock No.	Recommended Socket Set or Series	Tray Length, inches
<i>For 3/8" Square Drive</i>		
KTA212F	212F Set	10 1/4
KTA212I	212IPFM Set	12 7/16
KTA231B	"SFS Series"	9 3/16
KTA232B	211F and 211FS Sets	9 3/16
<i>For 1/2" Square Drive</i>		
KTA219	319SW and 319TW Sets	13 1/16
KTA240A	"S", "TS", "SIM" Series	12 9/16
KTA311I	311IM Set	12 1/2
KTA313S	313S and 313TS Series	8

Socket Driver Tray



YA38HTD

YA38HTD. Organizes the most commonly used 3/8" drive hex and TORX® socket drivers. Use only with chrome hand socket drivers. Sizes are clearly indicated on the holder. Stores fractional hex drivers in 1/8" to 3/8" range (1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/16" and 3/8"), metric hex drivers in 4mm to 10mm range (4, 5, 6, 7, 8, 9 and 10mm) and TORX® drivers from T27 to T60 Sizes (T27, T30, T40, T45, T47, T50, T55 and T60). Three (3) open pockets for additional sockets. Overall dimensions of 9.25" x 3.31" x 0.62" (235mm x 84mm x 16mm). Made of durable, lightweight ABS plastic.

YA38URCLIPS



YAMSET



YA38SMREH Side Mount Holder. For (1) 3/8" drive ratchet and extension. Use with YA38UR Organizer.

YA38TMREH Face Mount Holder. For (1) 3/8" drive ratchet and extension. Use with YA38UR Organizer.

YA38URCLIPS Clips. 3/8" drive clips for the YA38UR Organizer Rail. Bag of 25.

YA12UR Socket Rail Organizer. Includes (14) 1/2" drive clips.

YA12SMREH Side Mount Holder. For (1) 1/2" drive ratchet and extension.

Use with YA12UR Organizer.

YA12TMREH Face Mount Holder. For (1) 1/2" drive ratchet and extension.

Use with YA12UR Organizer.

YA12URCLIPS Clips. 1/2" drive clips for the YA12UR Organizer Rail. Bag of 25.

YAMSET Socket Organizer Mounting Kit. Combines up to four organizers and holders for group mounting and arrangement. Easily mounts to the Slots 'n Dots™ Riser System.

Tool Storage Accessories Hand Tool Organization

A269



A271A



A264A



Socket Rails and Clips

A265 Socket Rail. 7 3/8".

A269 Socket Rail. 10 3/8".

A267 Socket Rail. 13 3/8".

A270 Socket Rail. 16 3/4".

A266 Socket Rail. 23 3/8".

A268 Socket Rail. 31 1/2".

A264A Rail Hold-Down Clip.

Mounts to drawer, tote tray, or wall board. Snaps open to release socket rail. Package of 10.

A271A Socket Clip. 1/4" square drive. Package of 25.

A272A Socket Clip. 3/8" square drive. Package of 25.

A273A Socket Clip. 1/2" square drive. Package of 25.

A274C Socket Clip. 3/4" square drive. Package of 25.

A275 Mounting Clips For Risers. 3/16" to 3/8". Package of 10. (30 included with KRA63B).

A278 Mounting Clips For Risers. 5/16" to 3/4". Package of 10. (12 included with KRA63B).

A279 Mounting Clips For Risers. 5/8" to 1 1/4". Package of 10. (6 included with KRA63B).

A280 Mounting Clips For Risers. 1" to 1 1/8". Package of 10.



YA438B

Moveable Peg Socket Rails

18" rails feature movable pegs to organize sockets. Pegs can be stacked for extra storage. Adhesive-backed rail.

YA425B Socket Rail. 1/4" square drive (20 pegs).

YA438B Socket Rail. 3/8" square drive (18 pegs).

YA450B Socket Rail. 1/2" square drive (14 pegs).

YA381SG12



YA389SG12



Soft Grip Wrench Racks

Patented design holds wrench securely yet provides quick and easy release. Easily stores and organizes wrenches. Fits all 2" deep drawers in Snap-on® tool storage units. Mounting holes align with the Slots n' Dots™ system on Snap-on® workstation riser units. Molded handle allows easy transport of loaded rack. Red and grey color schemes allow user to easily differentiate fractional from metric sizes. Racks may be trimmed for use with smaller wrench sets. Flexible plastic material will not corrode or mar wrench finish. Available in standard and reverse styles for convenient side-by-side mounting in tool drawers. U.S. Patent 5,638,964 applies.

Standard configuration (Red):

YA381SG8 Soft Grip Wrench Rack. Holds up to 8 wrenches.

YA381SG12 Soft Grip Wrench Rack. Holds up to 12 wrenches.

YA381SG15 Soft Grip Wrench Rack. Holds up to 15 wrenches.

Reverse configuration (Grey):

YA389SG8 Soft Grip Wrench Rack. Holds up to 8 wrenches.

YA389SG12 Soft Grip Wrench Rack. Holds up to 12 wrenches.

YA389SG15 Soft Grip Wrench Rack. Holds up to 15 wrenches.

KRA15



Wrench Organizers

Wrench Organizers. Includes a pair of 24" long plastic organizers. Cut to desired length and attach to any drawer with foam backing.

KRA15 Organizer. For smaller wrenches.

KRA22 Organizer. For larger wrenches.

LSR3812A



LSR3812PA



Socket Rails (with Quick Release Locking Clips)

Push button, spring-loaded clips provide for quick, easy release of socket even with greasy hands. Extruded aluminum socket rail for light weight and durability. Detent ball at bottom of clip permits clip to be easily positioned on rail. Rail also features laser engraved Snap-on® logo.

Stock No.	Square Drive, inches	Clips	Rail Color	Overall Length, inches (mm)
LSR1406	1/4	6	Black	7 3/8 (187.3)
LSR1412	1/4	12	Black	10 (254)
LSR1412P	1/4	12	Pewter	10 (254)
LSR3812A	3/8	12	Black	12 (304.8)
LSR3812PA	3/8	12	Pewter	12 (304.8)
LSR1213	1/2	13	Black	14 (355.6)
LSR1213P	1/2	13	Pewter	14 (355.6)

YA38FR



Socket Holders with Posts

All sockets are easily visible. Each post is marked for correct socket size. Sockets are easily removed with one hand. Use for hand, power and impact sockets. High impact plastic resists oil and grease. Socket must have a through hole. Some smaller Snap-on® sockets manufactured before 1983 do not have through holes.

Stock No.	Square Drive, inches	Stores Socket Sizes (Deep and Shallow)	Overall Dimensions, inches	Color
YA12FR	1/2	3/8" to 1 1/4" in 1/16" increments	18 x 4 x 3.75	Red
YA12MET	1/2	10mm to 27mm in 1mm increments	20.5 x 3.5 x 3.75	Grey
YA14FR	1/4	1/8" to 3/8" in 1/16" increments	9 x 2.1 x 2.5	Red
YA14MET	1/4	4mm to 15mm in 1mm increments	9 x 2.1 x 2.5	Grey
YA38FR	3/8	1/4" to 1" in 1/16" increments	11.75 x 3 x 3	Red
YA38MET	3/8	6mm to 20mm in 1mm increments	13.12 x 3 x 3	Grey

YA381FRA



YA381MET



Wrench Racks

Specifically designed to hold up to 13 Snap-on® wrenches. Wrench size is clearly visible on rack. Fits 2" deep KRL drawers and most 2" deep KRA drawers. Retaining tabs for convenient vertical mounting or carrying.

YA381FRA Fractional Wrench Rack. Red. Holds 1/4" to 1".

YA381MET Metric Wrench Rack. Grey. Holds 7mm to 19mm sizes.

Wrench Organizers. Hold up to 12 wrenches. The wrench holding tabs on the YA389 Series are the reverse of the YA381 Series so two or more sets can be stored side by side with all wrenches facing forward. 6 1/4" x 2 1/2" x 9 1/2" long.

YA381 Organizer. Red.

YA381BL Organizer. Black.

YA389 Reverse Tooth Organizer. Red.

YA389BL Reverse Tooth Organizer. Black.

YAB381 Wrench Rack Retainer. Plastic bar with foam insert that clips over the wrenches in a YA381 or YA389 Series Wrench Rack.

MAGRAK10



Magnetic Wrench Organizers

Magnetic Wrench Organizers. Ten angular slots provide storage for most wrenches. A ridge at the base prevents wrenches from contacting tool storage surfaces. Mount magnetically for instant wrench access.

MAGRAK10 Organizer. Black.

MAGRAK10R Organizer. Red.

Hand Tool Organization

Magnetic Nut Holder

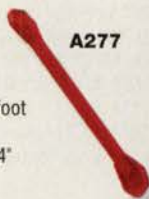
YA207. Flexible stainless steel body with pivoting magnetic head clips onto open end and box end wrenches. Holds nut on sizes 3/8" to 3/4" (10 to 19mm).



YA207

Crowfoot Wrench Holder

A277. For 3/8" drive crowfoot wrenches. Conveniently organize and store your crowfoot wrenches on this holder. Two-piece design snaps apart for access to desired size. 8 3/4" long. U.S. Patent No. 4,497,405.



A277

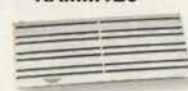
Flexible Magnetic Strip

KRDDMAG130 Magnetic, adhesive backed strip allows easy drawer divider attachment. 1" wide, 30' long.

KRDDMAG130



KAMM126



KAMM612



KAMM1212



Magnetic Panels

Magnetic base attaches to riser, tool box, cart, creeper or any ferrous surface in seconds. Tools are easily positioned on the magnetic panel. Ideal for holding fasteners during removal and assembly operations. High energy magnets. Made from 16-gauge steel. 3/16" (4.8mm) thick.

KAMM1212. Measures 12" x 12" (304.8mm x 304.8mm).

KAMM126. Measures 12" x 6" (304.8mm x 152.4mm).

KAMM612. Measures 6" x 12" (152.4mm x 304.8mm).

KAMM122. Measures 2" x 10 5/8" (50.8mm x 270mm).

Magnetic Trays for Roll Carts and Creepers

Magnetic tray with hangers fits all Snap-on® and Blue-Point® roll carts and creepers with 1" tubing. Optional caster attachment (**KAMT714-1**) allows tray to be hooked to rail on creepers and lower tray on seat creepers with 1" tubing for mobility. Tray is black with brushed metal magnet panel.

Stock No.	Magnetic Tray Dimensions, inches (mm)	Inside Hanger Dimension, inches (mm)	Outside Hanger Dimension, inches (mm)	Ground Clearance (With Casters), inches (mm)	Overall Dimensions, inches (mm)
KAMT714	6 1/2 x 14 1/2 (165.1 x 368.3)	14 3/4 (374.6)	17 (431.8)	2 1/4 (57.2)	6 7/8 x 17 1/4 (174.6 x 438.2)

MRB5



MRB10



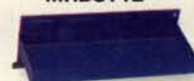
MRB12



MRB15



MRBST12



Magnetic Trays and Dishes

MRB5 Magnetic Dish. Round stainless steel dish features powerful mounting magnet. Securely holds small parts and tools. 5 3/8" ID.

MRB10 Magnetic Tray. Rectangular magnetic tray holds metal parts and small tools. Magnetically attaches to any flat iron or steel surface. Measures 9 1/2" x 5 1/2".

MRB12 Magnetic Tray. Rectangular magnetic tray holds metal parts and small tools. Magnetically attaches to any flat iron or steel surface. Features three 3 1/8" diameter magnets that are rubber coated to prevent scratching. Measures 6 5/16" x 14 7/32".

MRB15 Magnetic Tray. Keep tools or parts within easy reach with this magnetic tray. Stainless steel with four large rubber-based magnets on the bottom to resist scratching. 11 5/8" L x 10 3/4" W x 1/2" D.

MRBST12 Magnetic Tray. Ideal for use on the side of a tool box, cart or vehicle. Four powerful magnets easily support tools and parts. Extended back panel design aids in supporting load. Cushioned magnets and rubber strip along the bottom of the extended back panel helps prevent paint scratches. Heavy gauge steel construction for longer life. Overall dimensions: 12 1/8" x 4 7/8" x 5". Tray dimensions: 12 1/8" x 4 1/2" x 1 3/16". Weight is 2 1/16 lbs. (0.93 kg).

MRBD12MP5 Magnetic Dish. Large 2 1/2" deep x 12 1/2" long x 5 3/4" wide (68.5mm x 318mm x 146mm) dish holds more items than other trays. Magnets are strong enough to use in inverted position. Rugged stainless steel construction. Rubber base reduces surface scratching. Package of 5 each.

MRPB10MP5 Magnetic Trays. Each tray measures 1 1/8"D x 9 1/2"L x 5 1/2"W (28.4mm x 239mm x 140mm). Molded plastic design coupled with rubber base helps prevent damage to vehicle finish. Fully magnetized to hold contents and adhere to ferrous surfaces. Use upside down or on the side of the vehicle. Each tray weighs 1.4 lbs. (0.63 kg). Package of 5 trays includes one tray each in the following high visibility colors: red, orange, green, yellow and blue.

KRSA30



Magnetic Tool Silhouettes

KRSA30 Thirty 1" x 1 1/2" magnetic tool silhouettes. Apply anywhere on tool storage unit to visually aid in tool organization. Magnetic—leaves no sticky adhesive.

Tools Storage Accessories



Electronic Security Systems

Use on: **Roll Cabs:** KRL756 & A, KRL761B, KRL1001B, KRL1003B, KRL1056 & A, KRL7001 & A, KRL7002A, KRL7003B.
Top Chests: KRL751, KRL791 & A, KRL1201 & A, KRL1203B and KRL1251.
End Cabs: KRL711 & A, KRL1011 & A, KRL7011 & A.

KARPUM Tool Storage Unit Electronic Security System (with Motion Detector and Remote Controls)

Remote locking system with motion detector protects tool inventories from unauthorized entry to tool storage units. Entire system installs in about 10 minutes. One remote can be set to operate roll cab, top chest and end cab combination. Universal module accepts up to three remotes at one time. If remote is lost, it can easily be deleted from module. Motion detector features eight levels of sensitivity. Electronic module features rechargeable battery that lasts for approximately 1,000 cycles per charge. 12 hour charge time. Includes UL / CSA Listed power supply/charger.

KARP1 Remote Unit. For KARPUM Electronic Security System.

KARP2 Battery Charger. For KARPUM Electronic Security System.

KARP3 Battery Set. For KARPUM Electronic Security System.

KARP4 Battery Charger Cord. For KARPUM Electronic Security System.

Miscellaneous Accessories

KASS13



Step Stool

KASS13 Step Stool/Seat. Versatile step stool, seat, and storage unit all in one. Holds up to 305 lbs. and has non-skid rubber grommets for stability. Large interior storage capacity with built-in tote tray. Has a handle for mobility that folds flat when used as a stool. 13" H x 22" W x 15" D.

YA869



YA124A



Leather Tool Pouches

YA869 Leather Tool Sheath. One pocket sheath attaches to any work belt. 8 1/2" x 2".

YA124A Leather Tool Pouch. Top grain cowhide with assorted pockets and belt loop.

See your Snap-on® representative for additional magnetic accessories such as various other socket caddies and bit holders.

Tool Storage Security

KRBL4



Locking Bars

Lock Bars. Serve as a secondary locking system when ultimate protection is called for. Padlock must be purchased separately. Hardware included.

KRBL2 Lock Bar. 32" long. For use on KR657B, KR711, KRL711A, KRL727, KRL757, KR761, KRL76A, and KRL763.

KRBL4 Lock Bar. 36 13/32". For use on KR291, KRL291, KR656, KRL656, KR661, KRL661, KR663, KRL663, KR1001, KRL1001A, KR1003, KRL1003A, KR1010, and KRL1011A.

KRBL5 Lock Bar. 26" long. For use on KRA3024 and KRA3025.

KRBL2 Lock Bar. 32" long. For use on all KRA Series Roll Cabs except KRA3024 and KRA3025.

ML1



ML3



ML7



ML1504D



Padlocks

Master® Padlocks. Brass cylinders, nickel-silver pin tumblers, and brass locking levers for maximum locking protection.

ML1 Keyed Padlock. 1 3/4" steel case, 5/16" diameter.

ML3 Keyed Padlock. 1 1/2" steel case, 9/32" diameter.

ML7 Keyed Padlock. 1 1/4" steel case, 3/16" diameter.

ML1504D Combination Lock. Case-hardened 9/32" steel shackle offers protection against cutting and sawing. Secure three-digit combination. Automatic locking lever.

KRFL2A



Floor Lock Kits

For roll cabs that require better roll cab immobilization.

KRFL1A Floor Lock Kit. For KRL761A. Fixed height: 7 7/8" O.L. Collapsed height: 6 1/4". Caster height: 7 1/4".

KRFL2A Adjustable Floor Lock Kit. For KR1001 and KRL1001A. Adjustable height: 7 13/16" to 8 13/16" O.L. Collapsed height: 7" to 8". Caster height: 8 1/2".

KRFL3A Adjustable Floor Lock Kit. For KR1003 and KRL1003A. Adjustable height: 9 1/8" to 10 1/8" O.L. Collapsed height: 8 5/16" to 9 5/16". Caster height: 9".

KRA444A



Accessory Box

KRA444A Accessory Box. Lockable box mounts inside roll cab or tool chest for protection of valuables. 8 1/4" x 4 3/4" x 1 1/4". Requires 2" minimum drawer depth.

GA155A



Key Chain

GA155A Key Chain. Spring retractable, 24" chain. Clips onto belt or pocket.

Workstation Accessories

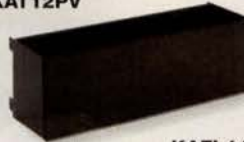
YA3089A



YA3182A



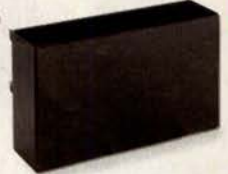
KAT12PV



KASR12PV



KALR12PV



KAMS18PV



KAS12PV



KAFL148



KTA8PV



KAFL22MA



A289



Workstation Accessories

Use these quality accessories to enhance the organization and storage capabilities of the KRL7000 Workstation Series. Most of them can also be used with the KRA488A Roll Cart Series. All accessories designed to work with the SLOTS-N-DOTS™ Mounting System.

Looped Tool Organizer. Loops hold screwdrivers, extensions, ratchets, pliers and other small hand tools.

YA3086A 6" long.

YA3123A 12" long.

YA3089A 9" long.

YA3182A 17 1/2" long.

KAT12PV Spray Can Rack. Holds 3 to 4 spray cans. 12" long.

KAT18PV Spray Can Rack. Holds 5 to 6 spray cans. 18" long.

KASR12PV Screwdriver Rack. Holds up to seven screwdrivers or other tools. 12" long.

KALR12PV Literature Bin. Stores manuals, magazines, papers and other printed materials. 12" deep.

KAHR12PV Hammer Rack. Holds 3 hammers. Two racks mounted end-to-end will hold seven hammers total. Each rack is 12" long.

KAMS18PV Shop Manual Stand. Shop manual stand with page holder. 18" wide.

KAS12PV Flat Utility Shelf. 12" wide shelf for miscellaneous items.

KAFL148 Task Light. Mounts under the top riser/shelf of workstation. Features 40-watt fluorescent bulb and 6-foot cord.

KAFL22MA Compact Task Light. Two magnetic clamps allow mounting on workstation risers or other metal surface to provide direct lighting to job site. Features 13-watt fluorescent bulb and 25-foot cord.

KTA8PV Metal Tote Tray. Drops in any 14" wide (4" deep) drawers on KRL1000 and KRL700 Series Tool storage units. Four non-skid rubber feet protect finished surfaces from scratching. Raised lips hold tray securely in drawer. Tubular pull-up handle lifts 1 3/4". Measures 10" W x 14 13/16" L x 3 13/16" H with handle down. Black textured finish.

A285 "L" Bracket Socket Rail. Red. 7 1/2" long.

A289 "L" Bracket Socket Rail. Red. 10 1/2" long.

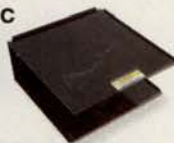
A289PV "L" Bracket Socket Rail. Black. 10 1/2" long.

Shelves, Trays, and Racks

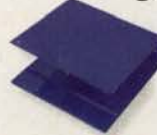
KRA412D



KRA412DPC



KRA412DPCM



KR294



KR14



KR10



KRA16



KRJC23



KRA19



1003X36PV



KRA412D Folding Shelf. Fits all KRA tool storage units. Bracket slips over raised lip of roll cab. Shelf is hinged to bracket, which has drilled mounting holes. Full-length piano hinge. Folds down when not in use. 18 1/4" x 18" x 1/4" rim. Red.

KRA412DPC Folding Shelf. Same as KRA412D except black.

KRA412DPCM Folding Shelf. Same as KRA412D except blue.

KRA16 Valve Rack. Sixteen 11/16" holes provide easy access to valves. Hang on roll cab or tool chest with 1/4" or more lip. This handy unit hooks over the lip of any Snap-on® roll cab.

KR294 Hang-on Prybar Rack. Hang up to four prybars or long tools with handles. Notched angle plate keeps tools from shifting. Suspend from roll cab or tool chest with 1/4" or more lip.

KR14 Screwdriver Rack. Keeps frequently used screwdrivers accessible

KR10 Literature Bin. Store instructions, specifications, and other important literature.

Creeper Hangers. Secures creepers to roll cabs. Hanger hooks over lip of roll cab and screws down. Adjustable to four different creeper widths. Two hook bolts and a lock rod are included so creeper can be padlocked.

(Padlock not included.) U.S. Patent 5,407,170 applies. 16 13/16" length.

KRJC23 Red.

KRJC23PB Black.

KRJC23PER Yellow.

KRJC23PL Cranberry.

KRJC23PCN Royal blue.

Hang-on Parts Tray. Organize small parts or spray cans. Hang on roll cabs or tool chest with 1/4" or more lip. Also for use in drawers as storage trays.

KRA20 25" x 3" x 2 1/4".

KRA19 15" x 3" x 2 1/4".

Sliding Trays. Give additional work or storage surface.

663X36PV 10 3/4" W x 6" D x 1 1/8" H. Fits KR661/KRL661

761XL36APV 29 7/8" W x 6" D x 1 1/8" H. Fits KRL761, KRL1001A, and KRL1003A

1000X36PV 30 5/16" W x 6" D x 1 1/8" H. Fits KR656, KR661/KRL661, KR761, KR1001, and KR1003

1001XL36PV 14 1/8" W x 6" D x 1 1/8" H. Fits KRL761A, KRL1001A, and KRL1003A

1003X36PV 14 5/8" W x 6" D x 1 1/8" H. Fits KR761, KR1001, and KR1003

3800K0800R Provides a flat work surface on top of storage unit drawer. Fits KRA3800. *U.S. Patent No. 5,443,311 applies.

Tools Storage Accessories

8-88HBRK



8-88RRK



Detent Kits

Detent Kits for Ball Bearing Slides. Kits include standard detents for normal use or firmer retrofit detents to help prevent unlocked drawers from inadvertently rolling open.

8-88HBRK A pair of heavy-duty standard cabinet member bumper kits for use with latch (black).

8-88HDRK A pair of heavy-duty cabinet member detent kits for use without latch (grey).

8-88HSRK A pair of heavy-duty intermediate member sequencing detent kits for use with/without latch (black).

8-88ANRK A pair of narrow, firm stiffness detent kits for drawers without latch (grey).

8-88RRK A pair of firm stiffness

detent kits for over-under slide used on KR Series Units (grey).

8-88ASNRK A pair of narrow, standard stiffness detent kits for drawers without latch (black).

8-88SWRK A pair of wide, standard stiffness detent kits (black).

8-88WRK A pair of wide, firm stiffness detent kits (grey).

Drawer Latches

10-285B Drawer Latch. For wide bank drawers on KRL700/KRL1000/KRL7000 Series Tool Storage units and KRA4000 Series 40" wide drawers.

10-385B Drawer Latch. For extra wide bank drawers on KRL700/KRL1000/KRL7000 Series Tool Storage units.

10-185B Drawer Latch. For narrow bank drawers on KRL700/KRL1000/KRL7000 Series Tool Storage units.

10-885B Drawer Latch. For narrow bank drawers on KRA4000 Series 26" wide and wide bank of 4" wide units.

10-485B Drawer Latch. For narrow bank drawers on KRA4000 Series Tool Storage units.

Drawer Maintenance

8-2388AL



Ball Bearing Drawer Slides

Optional Ball Bearing Slides. For 4" high narrow and wide drawers in KRA3000/4000/5000 Series units.

8-2388ALRS Slide Kit. Left/right slide kit with screws. For KRL1000/KRL7000 Series Tool Storage Units.

83188LRS SlideKit. Left/right slide kit with screws. For KRL1012/KRL7012/KRLV7012 Lockers and KRL1015/KRLV7015 End Cabs.

8-3688S Slide Kit. Includes two slides and screws. For KRL712A Locker and KRL715A End Cab.

8-3588S Slide. Includes two slides and screws. For KRL700 Series Tool Storage Units.

8-3088LRS Slide. Left/right slide kit with screws.

KRL Series Drawer Control (Special Order)

Available for new KRL Series Roll Cabs and Top Chests. Drawer control permits only one drawer per bank to be opened at a time reducing the chance of the unit tipping. Existing units cannot be retrofitted. Special Order.

Tool Storage Unit Maintenance

SPP398



REP12A



PN286308



PN1286308



Touch-up Paint

SPP398 Red. 1/2 oz. bottle.

REP12A Red. 12 oz. spray can.

PN2-84208 Black. 1/2 oz. bottle.

PN12-84208 Black. 12 oz. spray can.

PN2-84508 Cranberry. 1/2 oz. bottle.

PN12-84508 Cranberry. 12 oz. spray can.

PN2-84308 Teal. 1/2 oz. bottle.

PN12-84308 Teal. 12 oz. spray can.

PN286308 Royal Blue. 1/2 oz. bottle.

PN1286308 Royal Blue. 12 oz. spray can.

PN2-87808 Ultra Yellow. 1/2 oz. bottle.

PN12-87808 Ultra Yellow. 12 oz. spray can.

PN285608 Putty. 1/2 oz. bottle.

PN1285608 Putty. 12 oz. spray can.

K1LA



Lock Assemblies

High security tubular tool storage locks with rotating collars are harder to pick and are more resistant to vandalism. Key alike any number of Snap-on tool storage units. Older units can be converted to this new style lock. Each lock has an individual combination. Lock kits include mounting nut and lock washer.

Tubular Lock Assemblies:

K1LA One lock assembly with two keys.

K2LA Two keyed alike lock assemblies with two keys.

K3LA Three keyed alike lock assemblies with three keys.

K4LA Four keyed alike lock assemblies with two keys.

K5LA Five keyed alike lock assemblies with two keys.

K6LA Six keyed alike lock assemblies with two keys.

K7LA Seven keyed alike lock assemblies with two keys.

Casters

Replacement casters for Snap-on® Tool Storage Roll Cabs. See Brochure SS1261B for more information.

Extra Heavy Duty. 6" x 2". Use on KR7100 (through C model), KR1000 (through C model), KRA400/400A, KRL761/761A, KRL763, KRL773, KRL1001/1001A, KRL1003/1003A, KRL7002 and KRL7003 Roll Cabs plus KRWLA36, KRWLB36, KRWLC36 and KRWLD36 Modular Cabinets.

8-10639A Swivel. 1200 lb. capacity. Spring loaded.

8-10739 Rigid. 1200 lb. capacity. Spring loaded.

8-12039 Swivel. 1500 lb. capacity. Spring loaded.

8-12139 Rigid. 1500 lb. capacity. Spring loaded.

8-12039 Pivot Lock. For use with 8-12039 Caster.

Medium Duty. 5" x 2". Use on KRA3024, KRA3025, KRA3027, KRA4007/4007A and KRB1007 Roll Cabs.

816939A Rigid. 280 lb. capacity.

816839A Swivel. 280 lb. capacity.

Heavy Duty. 6" x 2". Use on KRA3800 (through C model), KRA3107A, KRA3024, KRA3025, KRA3027, KRA4007/4007A, KRA4107/4107A, KRA4109/4109A, KRA4813, KRA5319, KRA5213, KRL761/761A, KRL763, KRL773, KRL777, KRWLA36, KRWLB36, KRWLC36 and KRWLD36.

8-20439 Swivel. 700 lb. Capacity.

8-20339 Rigid. 700 lb. Capacity.

Medium Duty. 6" x 2". Sealed bearings with soft rubber wheel. Use on KRL761 plus KRA4000/KRA5000 Series Roll Cabs.

8-21839 Swivel. 550 lb. Capacity.

8-21939 Rigid. 550 lb. Capacity.

Heavy Duty. 6" x 2". Use on KRL7000, KRL700 and KRL1056 Series Roll Cabs.

8-20839 Swivel. 900 lb. Capacity.

8-20739 Rigid. 900 lb. Capacity.

Covers Tools Storage Accessories

The KAC Series of Storage Unit Covers can be used individually per unit or zipped together with the heavy duty nylon zipper to form a cover combination to match your tool storage combination. Magnets on the locker and end cab covers hold the

door flap open to allow entry to the unit without removing the cover itself. Covers are available for roll cabs, roll cabs with top chests, roll cabs with workstation risers/overheads, left and right side end cabs, and left and right side lockers.

Features:

- Heavy Duty Nylon Zippers
- Bright Silver Snap-on® Logo
- High Quality 200 Denier Nylon
- All Covers For All Units Available In Four Standard Colors: Red, Black, Cranberry, and Royal Blue.

KRL7000 Series Storage Unit Covers.

Cover Description	Red Stock No.	Black Stock No.	Royal Blue Stock No.	Cranberry Stock No.
KRL7001 Cover	KAC7001	KAC7001PC	KAC7001PCM	KAC7001PM
KRL7001/KRL1251 Combination Cover	KAC711251	KAC711251PC	KAC711251PCM	KAC711251PM
KRL7001 with 36" Riser/Overhead Cover	KAC7001WD	KAC7001WDPC	KAC7001WDPCM	KAC7001WDPM
KRL7002 Cover	KAC7002	KAC7002PC	KAC7002PCM	KAC7002PM
KRL7002/KRL1201 Combination Cover	KAC72121	KAC72121PC	KAC72121PCM	KAC72121PM
KRL7002 with 54" Riser/Overhead Cover	KAC7002WD	KAC7002WDPC	KAC7002WDPCM	KAC7002WDPM
KRL7003A Cover	KAC7003	KAC7003PC	KAC7003PCM	KAC7003PM
KRL7003A/KRL1203A Combination Cover	KAC73123	KAC73123PC	KAC73123PCM	KAC73123PM
KRL7003A with 72" Riser/Overhead Cover	KAC7003WD	KAC7003WDPC	KAC7003WDPCM	KAC7003WDPM
KRL7011A/KRL7015A/KRLV7015 Cover (Left Side)	KAC7011L	KAC7011LPC	KAC7011LPCM	KAC7011LPM
KRL7011A/KRL7015A/KRLV7015 Cover (Right Side)	KAC7011R	KAC7011RPC	KAC7011RPCM	KAC7011RPM
KRL7012/KRLV7012 Cover (Left Side)	KAC7012L	KAC7012LPC	KAC7012LPCM	KAC7012LPM
KRL7012/KRLV7012 Cover (Right Side)	KAC7012R	KAC7012RPC	KAC7012RPCM	KAC7012RPM

KRL1000 Series Storage Unit Covers.

Cover Description	Red Stock No.	Black Stock No.	Royal Blue Stock No.	Cranberry Stock No.
KRL1001A Cover	KAC1001	KAC1001PC	KAC1001PCM	KAC1001PM
KRL1001A/KRL1201A Combination Cover	KAC100112	KAC100112PC	KAC100112PCM	KAC100112PM
KRL1001A/KRL1201A/KRL1012A Combination Cover	KAC1001TL	KAC1001TLPC		
KRL1001A with 54" Riser/Overhead Cover	KAC1001WD	KAC1001WDPC	KAC1001WDPCM	KAC1001WDPM
KRL1003A Cover	KAC1003	KAC1003PC	KAC1003PCM	KAC1003PM
KRL1003A/KRL1203A Combination Cover	KAC13123	KAC13123PC	KAC13123PCM	KAC13123PM
KRL1003A with 72" Riser/Overhead Cover	KAC1003WD	KAC1003WDPC	KAC1003WDPCM	KAC1003WDPM
KRL1056 Cover	KAC1056	KAC1056PC	KAC1056PCM	KAC1056PM
KRL1056/KRL1251 Combination Cover	KAC161251	KAC161251PC	KAC161251PCM	KAC161251PM
KRL1056 with 36" Riser/Overhead Cover	KAC1056WD	KAC1056WDPC	KAC1056WDPCM	KAC1056WDPM
KRL1011A/KRL1015A Cover (Left Side)	KAC1011L	KAC1011LPC	KAC1011LPCM	KAC1011LPM
KRL1011A/KRL1015A Cover (Right Side)	KAC1011R	KAC1011RPC	KAC1011RPCM	KAC1011RPM
KRL1012A Cover (Left Side)	KAC1012L	KAC1012LPC	KAC1012LPCM	KAC1012LPM
KRL1012A Cover (Right Side)	KAC1012R	KAC1012RPC	KAC1012RPCM	KAC1012RPM

KRL700 Series Storage Unit Covers.

Cover Description	Red Stock No.	Black Stock No.	Royal Blue Stock No.	Cranberry Stock No.
KRL756 Cover	KAC756	KAC756PC	KAC756PCM	KAC756PM
KRL756/KRL731 Combination Cover (also KRL777)	KAC756731	KAC756731PC	KAC756731PCM	KAC756731PM
KRL756/KRL751 Combination Cover	KAC756731	KAC756731PC	KAC756731PCM	KAC756731PM
KRL756 with 36" Riser/Overhead Cover	KAC756WD	KAC756WDPC	KAC756WDPCM	KAC756WDPM
KRL761A Cover	KAC761	KAC761PC	KAC761PCM	KAC761PM
KRL761A/KRL791A Combination Cover	KAC761791	KAC761791PC	KAC761791PCM	KAC761791PM
KRL761A/KRL791A/KRL712 Combination Cover	KAC761TL	KAC761TLPC		
KRL761A with 54" Riser/Overhead Cover	KAC761WD	KAC761WDPC	KAC761WDPCM	KAC761WDPM
KRL773 with 72" Riser/Overhead Cover	KAC773WD	KAC773WDPC	KAC773WDPCM	KAC773WDPM
KRL711/KRL715 Cover (Left Side)	KAC711L	KAC711LPC	KAC711LPCM	KAC711LPM
KRL711/KRL715 Cover (Right Side)	KAC711R	KAC711RPC	KAC711RPCM	KAC711RPM
KRL712 Cover (Left Side)	KAC712L	KAC712LPC	KAC712LPCM	KAC712LPM
KRL712 Cover (Right Side)	KAC712R	KAC712RPC	KAC712RPCM	KAC712RPM

KRA5000 / KRA4000 Series Storage Unit Covers.

Cover Description	Red Stock No.	Black Stock No.	Royal Blue Stock No.
KRA5000 Series Roll Cab Cover	KAC5000	KAC5000PC	KAC5000PCM
KRA5000 Series Roll Cab/Top Chest Cover	KAC530015	KAC530015PC	KAC530015PCM
KRA5012 Locker Cover, Left Side	KAC5012L	KAC5012LPC	KAC5012LPCM
KRA5012 Locker Cover, Right Side	KAC5012R	KAC5012RPC	KAC5012RPCM
KRA5000 Series Roll Cab/Top Chest/Bulk Top Chest Cover (3 pcs.)	KAC533015	KAC533015PC	KAC533015PCM
KRA5000 Series Roll Cab/Workstation Riser/Overhead Cover	KAC5000WS	KAC5000WSPC	KAC5000WSPCM
KRA4000/3000 Series 40" Roll Cab/Top Chest Combination Cover	KAC4800	KAC4800PC	KAC4800PCM
KRA4000/KRA3000 Series 40" Roll Cab/Top Chest Combination Cover	KAC48004810	KAC480010PC	KAC480010PCM
KRA4000/KRA3000 Series 40" Roll Cab/Drawer Section/Top Chest Combinations	KAC48006010	KAC486010PC	KAC486010PCM
KRA4000 Series 40" Roll Cab with 40" Riser/Overhead Cover	KAC4800WS	KAC4800WSPC	KAC4800WSPCM
KRA Series End Cabs Cover, Left Side	KAC4820L	KAC4820LPC	KAC4820LPCM
KRA Series End Cabs Cover, Right Side	KAC4820R	KAC4820RPC	KAC4820RPCM
KRA4007 Cover	KAC4007	KAC4007PC	KAC4007PCM
KRA4000/KRA3000 Series 26" Roll Cab/Top Chest Combination Cover	KAC40074014	KAC40074014PC	KAC40074014PCM
KRA4055/KRA4059 Series, KRA59K Series Top Chest Cover	KRAC59		

RATCHETS

Professionals always seek the right tool for the job. When it comes to selecting a ratchet, no one beats the choices you have at Snap-on®. In this catalog you'll find more than 80 ratchets to fit virtually any application—ratchets in chrome and industrial finishes, ratchets small enough to nestle in your palm or large enough for safety. After all, we pioneered interchangeable sockets. It only stands to reason that we give you every opportunity to turn them.



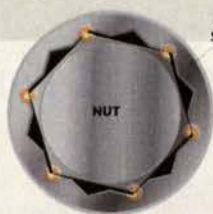
Palm Ratchet



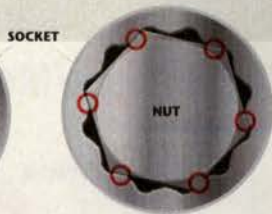
High Strength Sealed Series



Locking Flex Head Series



Here you see a conventional 12-point socket and the contact it makes on the corner of a nut or bolt. The corner can round off under high loads causing the wrench to slip.



A Snap-on® Flank Drive® wrench moves the contact away from the corner with a radius, and then provides flat-to-flat contact for up to 20% more turning power.

SOCKETS

Double Hex

- Engages fasteners every 30 degrees for better access in restricted areas.

Single Hex

- Greater torque with more socket-to-fastener contact

Chamfered Opening

- Makes fastener engagement quick and smooth.

Concentric / Thin Wall Construction

- Improved strength and accessibility.



Nickel Chrome Plating

- For smooth, tough, corrosion resistant finish.

Identification Stamping

- Knurled bands for metric sockets and grooves for standard sockets

Detent Retaining System

- Grooves located on all four interior walls ensure engagement in any position.

Special Alloy Steel

- Combines strength and durability.

Butt Welding

- Provides strength and prevents twisting under load.

Turned down and Knurled Shaft

- Provides fingertip control.

Chamfered Drive Ends

- Countersunk for easy drive engagement.

Nickel Chrome Plating

- For smooth, tough, corrosion resistant finish.

Cold Formed

- For stability, strength and durability.

Locking Mechanism

- Uses a spring loaded collar for positive socket retention.

From the revolutionary idea of detachable sockets to the invention of the Flank Drive® Wrenching System, the dedication to innovation has created a Snap-on socket to fit just about every need. Snap-on manufactures over 1,500 different sockets in nine drive sizes and approximately 200 styles and types. Innovation helps us keep pace with the ever changing needs of the professional tool user.

1/4" Drive General Service Sets

Inches/Metric, 6-Point

144TMPB 6-Point Fractional/Metric Set

44 Tools Include:

6-Point Shallow
Sockets:

TM6 3/16"
TM7 7/32"
TM8 1/4"
TM9 9/32"
TM10 5/16"
TM11 11/32"
TM12 3/8"
TM14 7/16"
TM16 1/2"
TM18 9/16"

6-Point Deep
Sockets:

STM6 3/16"
STM7 7/32"
STM8 1/4"
STM9 9/32"
STM10 5/16"
STM11 11/32"
STM12 3/8"
STM14 7/16"
STM16 1/2"
STM18 9/16"

6-Point Shallow
Sockets Metric:

TMM5.5 5.5mm
TMM6 6mm
TMM7 7mm
TMM8 8mm
TMM9 9mm
TMM10 10mm
TMM11 11mm
TMM12 12mm
TMM13 13mm
TMM14 14mm

6-Point Deep
Sockets Metric:

STMM5.5 5.5mm
STMM6 6mm
STMM7 7mm
STMM8 8mm
STMM9 9mm
STMM10 10mm
STMM11 11mm
STMM12 12mm
STMM13 13mm
STMM14 14mm

also includes:

T936 High Strength Sealed Ratchet
TMU8B Universal Joint
TMXK2 2" Knurled Extension
TMXK60 6" Knurled Extension
PB99A Plastic Box

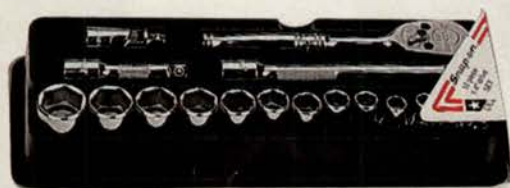


144TMPB



Metric, 6-Point

117TMM



117TMM 6-Point Starter Metric

17 Tools Include:

6-Point Shallow Sockets Metric:

TMM4 4mm
TMM5 5mm
TMM5.5 5.5mm
TMM6 6mm
TMM7 7mm
TMM8 8mm
TMM9 9mm
TMM10 10mm
TMM11 11mm
TMM12 12mm
TMM13 13mm
TMM14 14mm
TMM15 15mm

also includes:

T936 High Strength Sealed Ratchet
TMU8B Universal Joint
TMXK2 2" Knurled Extension
TMXK4 4" Knurled Extension

Inches, 6-Point

134ATMP Set, 6-Point General Service

34 Tools Include:

6-Point

Shallow Sockets:

TM6 3/16"
TM7 7/32"
TM8 1/4"
TM9 9/32"
TM10 5/16"
TM11 11/32"
TM12 3/8"
TM14 7/16"
TM16 1/2"
TM18 9/16"

6-Point

Deep Sockets:

STM6 3/16"
STM7 7/32"
STM8 1/4"
STM9 9/32"
STM10 5/16"
STM11 11/32"
STM12 3/8"
STM14 7/16"
STM16 1/2"
STM18 9/16"

also includes:

TM4CSA Long Shank Driver
TM10G 6" Breaker Bar
TM61A 6" Flexible Extension
TM67A Ratchet Adaptor
TM82 Flat Tip Driver .036 x 1/4"
TM408 Double Square Socket 1/4"
TM410 Double Square Socket 5/16"
TM412 Double Square Socket 3/8"
T936 High Strength Sealed Ratchet

134ATMP



TMS70A Ratchet Spinner
TMU8B Universal Joint
TMXK2 2" Knurled Extension
TMXK4 4" Knurled Extension
TMXK60 6" Knurled Extension

Optional Add-On Items:
KRA275A Metal Box
KRA284B Metal Box



120DTMPB



120DTMPB 6-Point General Service

20 Tools Include:

6-Point Shallow Sockets:

TM6 3/16"
TM7 7/32"
TM8 1/4"
TM9 9/32"
TM10 5/16"
TM11 11/32"
TM12 3/8"
TM14 7/16"
TM16 1/2"
TM18 9/16"

also includes:

TM4CSA Long Shank Driver
TM10G 6" Breaker Bar
TM408 Double Square Socket 1/4"
TM410 Double Square Socket 5/16"
TM412 Double Square Socket 3/8"
T936 High Strength Sealed Ratchet
TMU8B Universal Joint
TMXK2 2" Knurled Extension
TMXK4 4" Knurled Extension
TMXK60 6" Knurled Extension
PB24 Plastic Box

Optional Add-On Items:
KRA255A Metal Box

114TMPB



General Service Sets 1/4" Drive

114TMPB 6-Point General Service Set (In metal box)

114ATMP 6-Point General Service Set (In plastic tray)

14 Tools Include:

6-Point Shallow Sockets:

TM6	3/16"	TM11	1 1/32"
TM7	7/32"	TM12	3/8"
TM8	1/4"	TM14	7/16"
TM9	9/32"	TM16	1/2"
TM10	5/16"	TM18	9/16"

also includes:

T936	High Strength Sealed Ratchet
TMU8B	Universal Joint
TMXK2	2" Knurled Extension
TMXK4	4" Knurled Extension
KRA229	Metal Box

113ATMPB 6-Point General Service Set (In metal box)

113BTMP 6-Point General Service Set (In plastic tray)

13 Tools Include:

6-Point Shallow Sockets:

TM6	3/16"	TM11	1 1/32"
TM7	7/32"	TM12	3/8"
TM8	1/4"	TM14	7/16"
TM9	9/32"	TM16	1/2"
TM10	5/16"	TM18	9/16"

also includes:

TF936	High Strength Sealed Ratchet
TMXK2	2" Knurled Extension
TMXK4	4" Knurled Extension
KRA229	Metal Box



113ATMPB



Inches, 6/12-Point



167ATMB

167ATMB 6/12-Point General Service Set

67 Tools Include:

6-Point Shallow Sockets:

TM04	1/8"	TM10	5/16"
TM05	9/32"	TM11	1 1/32"
TM6	3/16"	TM12	3/8"
TM7	7/32"	TM14	7/16"
TM8	1/4"	TM18	9/16"
TM9	9/32"		

6-Point Deep Sockets:

STM6	3/16"	STM11	1 1/32"
STM7	7/32"	STM12	3/8"
STM8	1/4"	STM14	7/16"
STM9	9/32"	STM16	1/2"
STM10	5/16"	STM18	9/16"

also includes:

TM4CSA	Long Shank Driver 1/4"
TM5	Sliding T-Handle 4 1/2"
TM10G	Breaker Bar 6"
TM27	Clutch Socket Driver 3/16"
TM30	Clutch Socket Driver 1/4"
TM31	Clutch Socket Driver 5/32"
TM61A	Flexible Extension 6"
TM62B	Flexible Driver 6 3/4"
TM65	Flexible Adjusting Tool
TM67A	Ratcheting Adaptor
TM82	Flat Tip Driver 1/4" x .036"
TM83A	Flat Tip Driver 1/32" x 2 3/4"

TM84	Flat Tip Driver 1/32" x 7/16"
TM408	Double Square Socket 1/4"
TM410	Double Square Socket 5/16"
TM412	Double Square Socket 3/8"
T936	High Strength Sealed Ratchet
TMA2.5E	Hex Driver 5/64"
TMA3E	Hex Driver 3/32"
TMA3.5E	Hex Driver 7/64"
TMA4E	Hex Driver 1/8"
TMA4.5E	Hex Driver 9/64"
TMA5E	Hex Driver 5/32"
TMA6E	Hex Driver 3/16"

TMA7E	Hex Driver 7/32"
TMA8E	Hex Driver 1/4"
TMC104E	Flat Tip Driver 3/16" x .032"
TMC105E	Flat Tip Driver 1/4" x .032"
TMC106E	Flat Tip Driver 3/8" x .042"
TMP12E	PHILLIPS® Driver #1
TMP22E	PHILLIPS® Driver #2
TMP23E	Long PHILLIPS® Driver
TMS4E	Speeder 16" long
TMS70A	Ratchet Spinner
TMU8B	Universal Joint

TMU81A	12-Point Universal Socket 1/4"
TMU101A	12-Point Universal Socket 5/16"
TMU121A	12-Point Universal Socket 3/8"
TMU141A	12-Point Universal Socket 7/16"
TMU161A	12-Point Universal Socket 1/2"
TMU181A	12-Point Universal Socket 9/16"
TMXK2	2" Knurled Extension
TMXK4	4" Knurled Extension
TMXK60	6" Knurled Extension
TMXK140	14" Knurled Extension
KRA282B	Metal Box

107ATMPB Expandable General Service Set and Additions

Start with the 107ATMPB General Service Set and add any of the suggested socket sets below to custom build exactly the 1/4" drive set you need. The plastic case has a large enough cavity to accommodate 2 rows of sockets—standard-length, semi-deep, deep, or universal socket sets, or any combination of these in U.S. or metric sizes.

7 Tools Include:

TM4CSA	Long Shank Driver 1/4"
TM10G	Breaker Bar 6"
T936	High Strength Sealed Ratchet
TMXK2	2" Knurled Extension

TMXK4	4" Knurled Extension
TMXK60	6" Knurled Extension
TMU8B	Universal Joint 1/4" Drive
PB24	Plastic Case

Suggested Additions:

110TMY	6-Point Shallow Socket Set (10 pcs)
110STMY	6-Point Deep Socket Set (10 pcs)
111TMDY	12-Point Metric Shallow Socket Set (11 pcs)
111STMDY	12-Point Metric Deep Socket Set (11 pcs)
106ETMAY	Metric Hex Driver Set (6 pcs)

Set (Add-on)

107ATMPB



See Warranty Information on inside front cover.

1/4" Drive Ratchets

Snap-on® High Strength Sealed Ratchets

Patented design features blind counterbores, high-tech seals, and special O-rings to seal in permanent lubrication and seal out dust, dirt, moisture, and other contaminants. You get a smooth-running ratchet without the responsibility of routine maintenance. U.S. Patent 4,934,220 and 6,125,722

Round-Head Ratchets

Feature a slim design plus a strong 39 tooth gear action for use in confined areas.

High Strength Sealed Ratchets



Round Head Ratchets



Multi-Position Head Ratchet



HY-LOK® Fastener Ratchet



Ratchet Sets and Accessories 1/4" Drive

Ratchet Sets

104RAT Round Head Ratchet Set

Includes 1/4" drive TK860, T860, and TH737 1/4" Drive Round-Head Ratchets, plus TMS70A Ratchet Spinner (4 pcs) in a plastic tray.



104RAT

RATM803A



RATM803A 1/4" Sealed Head Ratchet Set

Includes T936, TL936 and TF936 1/4" Drive Sealed Ratchets (3 pcs) in a plastic tray.

RAT936 Combination Drive Sealed Head Ratchet Set

1/4" drive T936 (pg. 76), 3/8" drive F936 (pg. 92) and 1/2" drive S936 (pg. 118) (3 pcs) in plastic tray.



RAT936

Accessories

Ratchet Adaptors



	A	B
TM67A	31/32	27/32
GTM67A	20	18°
	15/16	1 3/8

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Ratchet Spinner

	A	B
TMS70A	31/32	27/32



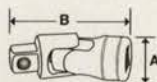
103UFTS



Universal Joints



	A	B
TMU8B	1/2	1 1/8
GTMU8B	1/2	1 1/8



103UFTS Combination Drive Universal Joint Set

Includes 1/4" drive TMU8B, 3/8" drive FU8A (pg. 96), and 1/2" drive S8 (pg. 120) Universal Joints (3 pcs) in a plastic tray.

1206GS



Square Drive Adaptors

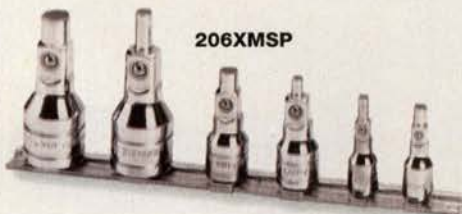


	A	B	C	D
TM1	3/8	1/4	21/32	1 1/8
TA3	1/4	3/8	1/2	15/16

1206GS Combination Drive Adaptor Set

Includes 1/4" drive TM1 and TA3 Adaptors, 3/8" drive A2A and A1MF Adaptors (pg. 95) and 1/2" drive GLA12B and GLA62 Adaptors (pg. 119) (6 pcs) on socket rail and clips.

206XMSP



Magnetic Adaptors

	A	B	C
TMXM17	7/32	13/32	1 21/32
TMXM114	7/32	9/32	1 17/32



206XMSP Combination Drive Magnetic Adaptor Set

Includes 1/4" drive TMXM17 and TMXM114 Adaptors, 3/8" drive FXM18 and FXM112 Adaptors (pg. 95), and 1/2" drive SXM212 and SXM222 Adaptors (pg. 119) (6 pcs) on a socket rail and clips.



WARNING

- Do not use chrome or industrial finish hand tools with power drivers.
- Frequently inspect, clean, and lubricate all non-sealed ratchet mechanisms with light oil.
- Do not replace worn parts individually; use entire contents of the service kit.
- Read additional safety precautions on pages M1 to M4.

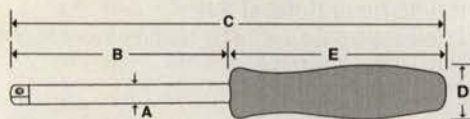


1/4" Drive Accessories



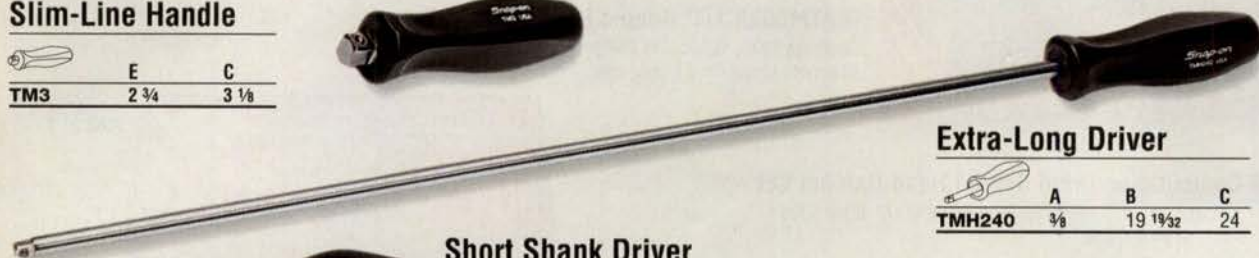
**Short Shank Driver
Stubby Handle**

	E	C
TM40ASA	1 3/4	2 1/8



**Short Shank Driver
Slim-Line Handle**

	E	C
TM3	2 3/4	3 1/8



Extra-Long Driver

	A	B	C
TMH240	3/8	19 19/32	24

**Short Shank Driver
Standard Handle**

	E	C
TM40B	3 5/8	4 1/32



Driver with Lock Button

	A	B	C
GM4B	5/16	2	5 21/32



Ratcheting Driver

	B	E	C
TMR4	3 7/8	5 3/32	8 31/32



Ratcheting T-Handle Driver

	D	E	C
TMRT8	26	13.8°	10

Long Shank Driver

	A	B	C
TM4B	5/16	2 1/16	5 3/4



Square Drive in handle end

Long Shank Driver w/Female Square Drive

Internal square drive in handle allows use with various handles.

	A	B	C
TM4CSA	5/16	2 3/8	6
TM9CSA	5/16	6 3/8	10



Flexible Driver

For low torque applications.

	A	B	C
TM62B	1/4	2 7/32	6 3/4
TM63A	1/4	4 21/32	9 3/16

Extra Long Flexible Driver

	A	B	C
TM615	1/4	6 21/32	18 5/8

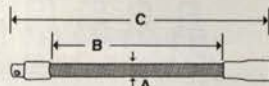


Accessories 1/4" Drive

Flexible Extension

	A	B	C
TM61A	5/16	5	6

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Speeders

	A	B	C	D
TMS4E	5/16	7 1/8	3	16
GTMS4E	5/16	7 1/8	3	15 1/32

Speeder w/Knob

	A	B	C	D
TMS4EK	5/16	7 1/8	3	15 1/32

Knurled Locking Extensions

The quick release sleeve releases socket from extension quickly and easily. Knurling at the drive end provides for easy fingertip turning.

	A	B
TMXKL60	5/16	6
TMXKL110	5/16	11
TMXKL240	3/8	24

103TMXKL Locking Knurled Extension Set.

TMXKL60 thru TMXKL240 (3 pcs) (6", 11", 24") in a plastic tray.



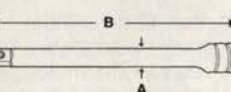
Wobble Drive Plus Knurled Extensions

	A	B
TMXWP1	5/16	1 1/4
TMXWP2	5/16	2
TMXWP4	5/16	4
TMXWP6	5/16	6
TMXWP8	5/16	8
TMXWP11	5/16	11

106ATMXWP Wobble Drive Plus Extension Set.

TMXWP1 thru TMXWP11 (6 pcs) (1 1/4", 2", 4", 6", 8", 11") in a plastic tray.

106BTMX



Knurled Extensions

	A	B
TMX1*	5/16	1 1/4
TMXK2*	5/16	2
TMXK4	5/16	4
TMXK60*	5/16	6
TMXK80*	5/16	8
TMXK110	5/16	11
TMXK140	5/16	14
TMX240*	3/8	24

* Not knurled • ASME/ANSI B107.10M-1996

106BTMX Knurled Extension. TMX1 thru TMXK110 (6 pcs) (1 1/4", 2", 4", 6", 8", 11") in a plastic tray.

Breaker Bars

	A	B	C
TM10G	5/16	19/32	6
GTM10G	5/16	19/32	6

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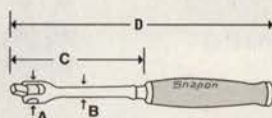
Adjusting Tools

	A	B	Shaft Type
TM64	18 1/4	16	Rigid
TM65	19 3/4	14 1/4	Flexible

Ideal for carburetor idle adjustment. Also for older-style window-type distributors with ignition points. Knobs are marked for counting turns.

Breaker Bar w/Soft Grip Handle

	A	B	C	D
THBB10	19/32	13/16	3 1/4	6 15/32



Sliding T-Handles

	B	A	C
TM5	5/16	13/16	4 1/2
GTM5	5/16	13/16	4 1/2

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WARNING

- Do not use chrome or industrial finish hand tools with power drivers.
- Read additional safety precautions on pages M1 to M4.



See Warranty Information on inside front cover.

1/4" Drive *FLANK DRIVE*® Sockets

110TMDY

110TMY



110GTMY



120STTM



Shallow

	6	12	6	12	A	B	C	D	E
1/8	TM04	—	—	—	7/32	7/16	1/2	7/8	1/8
5/32	TM05*	—	—	—	9/32	15/32	1/2	7/8	5/32
3/16	TM6*	TMD6*	GTM6	GTMD6	9/32	15/32	1/2	7/8	5/32
7/32	TM7*	TMD7*	GTM7	GTMD7	11/32	15/32	1/2	7/8	3/16
1/4	TM8	TMD8	GTM8	GTMD8	3/8	15/32	1/2	7/8	7/32
9/32	TM9	TMD9	GTM9	GTMD9	13/32	15/32	1/2	7/8	1/4
5/16	TM10	TMD10	GTM10	GTMD10	15/32	15/32	1/2	7/8	9/32
11/32	TM11	TMD11	GTM11	GTMD11	1/2	15/32	9/16	7/8	9/32
3/8	TM12	TMD12	GTM12	GTMD12	17/32	1/2	1/2	7/8	9/32
7/16	TM14	TMD14	GTM14	GTMD14	19/32	9/16	1/2	7/8	3/8
1/2	TM16	TMD16	GTM16	GTMD16	11/16	21/32	1/2	7/8	3/8
9/16	TM18	TMD18	GTM18	GTMD18	25/32	23/32	1/2	29/32	3/8
5/8	TM20	—	—	—	27/32	25/32	19/32	31/32	13/32

ASME/ANSI B107.1-1993

*Conventional hex.

Shallow Chrome Sets:

113TMY 6-Point Shallow Set. TM04 thru TM20 (13 pcs) (1/8" to 5/8") on A269 Socket Rail and Clips.

110TMY 6-Point Shallow Set. TM6 thru TM18 (10 pcs) (3/16" to 9/16") on A265 Socket Rail and Clips.

110TMDY 12-Point Shallow Set. TMD6 thru TMD18 (10 pcs) (3/16" to 9/16") on A265 Socket Rail and Clips.

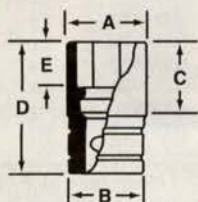
Shallow Industrial Finish Sets:

110GTMY 6-Point Shallow Set. GTM6 thru GTM18 (10 pcs) (3/16" to 9/16") on A265 Socket Rail and Clips.

110GTMDY 12-Point Shallow Set. GTMD6 thru GTMD18 (10 pcs) (3/16" to 9/16") on A265 Socket Rail and Clips.

Shallow/Deep Chrome Set:

120STTM 6-Point Shallow/Deep Set. TM6 thru TM18 Shallow Sockets and STM6 thru STM18 Deep Sockets (pg. 81) (20 pcs) (3/16" to 9/16") in a plastic tray.



Shallow

mm	6	12	A	B	C	D	E
4	TMM4*	—	6.7	12.1	13.3	22.2	4.6
4.5	TMM4.5*	—	7.2	12.1	13.3	22.2	4.3
5	TMM5*	TMMD5*	7.7	12.1	13.3	22.2	4.3
5.5	TMM5.5	TMMD5.5	8.3	12.1	13.3	22.2	4.6
6	TMM6	TMMD6	9.3	12.1	13.3	22.2	5.6
7	TMM7	TMMD7	10.5	12.1	13.3	22.2	6.1
8	TMM8	TMMD8	11.5	12.1	13.3	22.2	6.9
9	TMM9	TMMD9	12.7	12.1	13.3	22.2	7.4
10	TMM10	TMMD10	13.2	13.2	13.3	22.2	7.4
11	TMM11	TMMD11	15.2	14.6	13.3	22.2	9.4
12	TMM12	TMMD12	16.5	15.6	13.3	22.2	9.4
13	TMM13	TMMD13	17.6	16.7	13.3	22.2	9.4
14	TMM14	TMMD14	18.8	17.8	14.1	22.2	9.7
15	TMM15	—	20.4	19.4	14.1	23.0	9.1
16	TMM16	—	21.0	20.2	16.1	25.0	10.2

*Conventional hex.

Metric Shallow Chrome Sets:

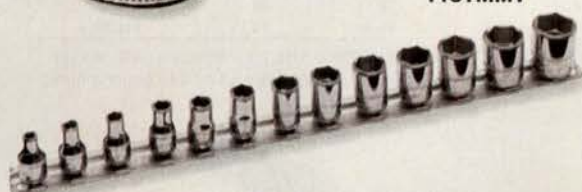
115TMMY Metric 6-Point Shallow Set. TMM4 thru TMM16 (15 pcs) (4 to 16 mm) on A270 Socket Rail and Clips.

113TMMY Metric 6-Point Shallow Set. TMM4 and TMM5 thru TMM15 (13 pcs) (4 mm, 5 to 15 mm) on A269 Socket Rail and Clips.

111TMDY Metric 12-Point Shallow Set. TMMD5 thru TMMD14 (11 pcs) (5 to 14 mm) on A265 Socket Rail and Clips.



113TMMY



111TMDY



FLANK DRIVE® Sockets 1/4" Drive

Semi-Deep

	6	12	A	B	C	D	E
3/16"	TMS6*	TMSD6*	5/16	15/32	29/32	1 1/4	7/32
7/32"	TMS7*	TMSD7*	11/32	15/32	29/32	1 1/4	7/32
1/4"	TMS8	TMSD8	3/8	15/32	29/32	1 1/4	1/4
9/32"	TMS9	TMSD9	13/32	15/32	23/32	1 1/4	1/4
5/16"	TMS10	TMSD10	15/32	15/32	23/32	1 1/4	9/32
11/32"	TMS11	TMSD11	1/2	15/32	23/32	1 1/4	9/16
3/8"	TMS12	TMSD12	9/16	1/2	23/32	1 1/4	9/16
7/16"	TMS14	TMSD14	5/8	19/32	23/32	1 1/4	3/8
1/2"	TMS16	TMSD16	11/16	21/32	23/32	1 1/4	3/8
9/16"	TMS18	TMSD18	3/4	23/32	23/32	1 1/4	3/8

*Conventional hex.

Semi-Deep Chrome Sets:

110TMSY 6-Point Semi-Deep Set. TMS6 thru TMS18 (10 pcs)

(3/16" to 9/16") on A265 Socket Rail and Clips.

110TMSY 12-Point Semi-Deep Set. TMS6 thru TMS18 (10 pcs)

(3/16" to 9/16") on A265 Socket Rail and Clips.



110TMSY



110TMSY



112TMSY



112TMSY



Semi-Deep

mm	6	12	A	B	C	D	E
5	TMMS5*	TMMDS5*	7.7	12.1	22.9	31.8	5.1
5.5	TMMS5.5*	TMMDS5.5	8.3	12.1	22.9	31.8	5.3
6	TMMS6	TMMDS6	9.3	12.1	22.9	31.8	5.8
7	TMMS7	TMMDS7	10.5	12.1	22.9	31.8	6.1
8	TMMS8	TMMDS8	11.5	12.1	18.4	31.8	6.9
9	TMMS9	TMMDS9	12.7	12.1	18.4	31.8	7.4
10	TMMS10	TMMDS10	14.0	13.2	18.4	31.8	7.4
11	TMMS11	TMMDS11	15.4	14.6	18.4	31.8	9.4
12	TMMS12	TMMDS12	16.5	15.6	18.4	31.8	9.4
13	TMMS13	TMMDS13	17.6	16.7	18.4	31.8	9.4
14	TMMS14	TMMDS14	18.8	17.8	18.4	31.8	9.7
15	TMMS15	TMMDS15	20.4	19.4	18.4	31.8	9.7

*Conventional hex.

Metric Chrome Semi-Deep Sets:

112TMSY Metric 6-Point Semi-Deep Set. TMMS5 thru TMMS15 (12 pcs) (5 to 15mm) on A265 Socket Rail and Clips.

112TMSY Metric 12-Point Semi-Deep Set. TMMDS5 thru TMMDS15 (12 pcs) (5 to 15mm) on A265 Socket Rail and Clips.

110STMDY



110STMY



110GSTMY



Deep

	6	12	6	12	A	B	C	D	E
1/8	STM04*	—	—	—	7/32	7/16	1 21/32	2	1/8
5/32	STM05*	—	—	—	7/32	15/32	1 21/32	2	3/16
3/16	STM6*	STMD6*	GSTM6*	GSTMD6*	7/16	15/32	1 21/32	2	3/16
7/32	STM7*	STMD7*	GSTM7*	GSTMD7*	7/16	15/32	1 21/32	2	7/32
1/4	STM8	STMD8	GSTM8	GSTMD8	7/16	15/32	1 21/32	2	7/32
9/32	STM9	STMD9	GSTM9	GSTMD9**	7/16	15/32	1 21/32	2	1/4
5/16	STM10	STMD10	GSTM10	GSTMD10**	7/16	15/32	1 21/32	2	7/32
11/32	STM11	STMD11	GSTM11	GSTMD11	1/2	15/32	1 21/32	2	9/32
3/8	STM12	STMD12	GSTM12	GSTMD12	9/16	9/16	1 21/32	2	9/32
7/16	STM14	STMD14	GSTM14	GSTMD14	9/16	9/16	1 21/32	2	3/8
1/2	STM16	STMD16	GSTM16	GSTMD16	11/16	21/32	1 21/32	2	3/8
9/16	STM18	STMD18	GSTM18	GSTMD18	3/4	23/32	1 21/32	2	3/8

*Conventional hex.

**Features a larger bolt clearance diameter for servicing aerospace fasteners.

Deep Chrome Sets:

110STMY 6-Point Deep Set. STM6 thru STM18 (10 pcs) (3/16" to 9/16") on A265 Socket Rail and Clips.

110STMDY 12-Point Deep Set. STMD6 thru STMD18 (10 pcs) (3/16" to 9/16") on A265 Socket Rail and Clips.

Deep Industrial Finish Sets:

110GSTMY 6-Point Deep Set. GSTM6 thru GSTM18 (10 pcs) (3/16" to 9/16") on A265 Socket Rail and Clips.

110GSTMDY 12-Point Deep Set. GSTMD6 thru GSTMD18 (10 pcs) (3/16" to 9/16") on A265 Socket Rail and Clips.



WARNING



- Do not use chrome or industrial finish hand tools with power drivers.
- Read additional safety precautions on pages M1 to M4.

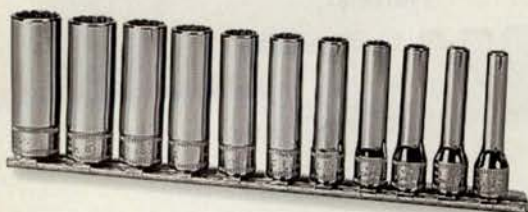
1/4" Drive

FLANK DRIVE® Sockets

113STMMY



111STMDY



124STTMM



Deep

mm	6	12	A	B	C	D	E
4	STMM4*	—	6.7	12.1	42.2	50.8	4.6
4.5	STMM4.5*	—	7.2	12.1	42.2	50.8	4.6
5	STMM5*	STMD5*	7.7	12.1	42.2	50.8	5.1
5.5	STMM5.5	STMD5.5	7.7	12.1	42.2	50.8	5.1
6	STMM6	STMD6	9.3	12.1	42.2	50.8	5.8
7	STMM7	STMD7	10.5	12.1	42.2	50.8	6.1
8	STMM8	STMD8	11.5	12.1	42.2	50.8	6.9
9	STMM9	STMD9	12.7	12.1	38.1	50.8	7.4
10	STMM10	STMD10	14.0	13.2	38.1	50.8	7.4
11	STMM11	STMD11	15.2	14.6	38.1	50.8	9.4
12	STMM12	STMD12	16.5	15.6	38.1	50.8	9.4
13	STMM13	STMD13	17.6	16.7	38.1	50.8	9.4
14	STMM14	STMD14	18.8	17.8	38.1	50.8	9.7
15	STMM15	—	20.4	19.4	38.1	50.8	9.1

*Conventional hex.

Metric Deep Chrome Sets:

113STMMY Metric 6-Point Deep Set. STMM4 and STMM5 thru STMM15 (13 pcs) (4mm, 5 to 15mm) on A269 Socket Rail and Clips.

111STMDY Metric 12-Point Deep Set. STMD5 thru STMD14 (11 pcs) (5 to 14mm) on A265 Socket Rail and Clips.

Metric Shallow/Deep Chrome Set:

124STTMM Metric 6-Point Shallow/Deep Set. TMM4 thru TMM14 Shallow Sockets (except TMM4.5) (pg. 80) plus STMM4 thru STMM14 Deep Sockets (except STMM4.5) (24 pcs) (4mm, 5 to 14mm) in a plastic tray.

FLANK DRIVE® Universal Sockets



106TMUSA



Shallow Universal

mm	6	12	12	A	B	D	E
3/16"	TMUS61A*	TMU61A*	—	19/64	1/2	1 17/64	1/4
7/32"	—	TMU71A*	GTMU71A*	11/32	1/2	1 17/64	1/4
1/4"	TMUS81A	TMU81A	GTMU81A	3/8	1/2	1 17/64	1/4
9/32"	—	TMU91A	GTMU91A*	27/64	1/2	1 5/16	9/32
5/16"	TMUS101A	TMU101A	GTMU101A	15/32	1/2	1 11/32	9/32
11/32"	TMUS111A	TMU111A	—	1/2	1/2	1 3/8	9/32
3/8"	TMUS121A	TMU121A	GTMU121A	17/32	1/2	1 27/64	9/32
7/16"	TMUS141A	TMU141A	GTMU141A	19/32	1/2	1 29/64	13/32
1/2"	TMUS161A	TMU161A	GTMU161A	11/16	1/2	1 33/64	13/32
9/16"	TMUS181A	TMU181A	GTMU181A	3/4	1/2	1 35/64	13/32

*Conventional hex.

Shallow Chrome Universal Sets:

108TMUSYA 6-Point Shallow Set. TMUS61A thru TMUS181A (8 pcs) (3/16" to 9/16") on A265 Socket Rail and Clips.

106TMUSA 6-Point Shallow Set. TMUS81A thru TMUS181A (except TMUS111A) (6 pcs) (1/4" to 9/16") in a plastic tray.

106TMUA 12-Point Shallow Set. TMU81A thru TMU181A (except TMU91A and TMU111A) (6 pcs) (1/4" to 9/16") in a plastic tray.

Shallow Industrial Finish Universal Set:

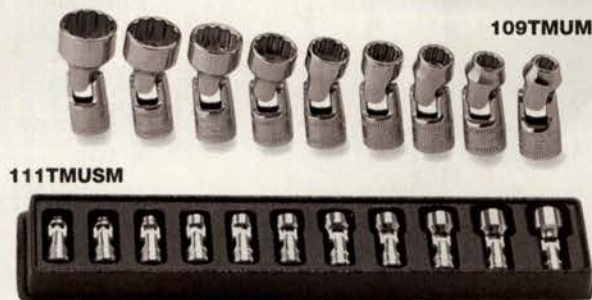
106GTMUA 12-Point Shallow Set. GTMU71A thru GTMU141A (6 pcs) (7/32" to 7/16").



106TMUA



FLANK DRIVE® Universal Sockets



Shallow Universal

mm	6	12	A	B	D	E
5	TMUSM5A	TMUM5A	8.1	12.7	29.2	3.3
5.5	TMUSM5.5A	—	8.5	12.7	29.2	3.6
6	TMUSM6A	TMUM6A	9.6	12.7	29.7	3.8
7	TMUSM7A	TMUM7A	10.7	12.7	30.5	4.3
8	TMUSM8A	TMUM8A	11.8	12.7	30.5	4.8
9	TMUSM9A	TMUM9A	12.7	12.7	31.2	4.8
10	TMUSM10A	TMUM10A	14.0	12.7	32.5	5.8
11	TMUSM11A	TMUM11A	15.4	12.7	33.0	6.6
12	TMUSM12A	TMUM12A	16.5	12.7	34.5	6.9
13	TMUSM13A	TMUM13A	17.3	12.7	36.8	7.6
14	TMUSM14A	—	18.8	12.7	38.6	8.6
15	TMUSM15A	—	20.4	12.7	41.1	8.9

Metric Shallow Chrome Universal Sets:

111TMUSMA Metric 6-Point Shallow Set. TMUSM5.5A thru TMUSM15A (11 pcs) (5 to 15mm) in a plastic tray.

106TMUSMA Metric 6-Point Shallow Set. TMUSM8A, TMUSM10A, TMUSM12A thru TMUSM15A (6 pcs) (8mm, 10mm, 12 to 15 mm) in a plastic tray.

109TMUMA Metric 12-Point Shallow Set. TMUM5A thru TMUM13A (9 pcs) (5 to 13mm) on A265 Socket Rail and Clips.



Shallow Universal
Metric 6 pt.



Shallow Universal
Inches 12 pt.



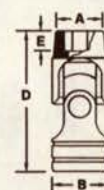
Deep Universal
Metric 12 pt.

Deep Universal

mm	11	12	A	B	D	E
5/16"	GSTMU101A	15/32	1/2	1 1/16	9/32	

Deep Universal

mm	12	A	B	D	E
10	STMUM10A	14.0	12.7	41.4	5.8
11	STMUM11A	15.4	12.7	42.4	6.6
12	STMUM12A	16.5	12.7	44.4	6.9
13	STMUM13A	17.3	12.7	43.9	7.6

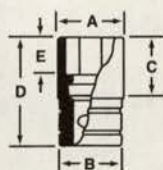


Special Purpose Sockets

Double Square

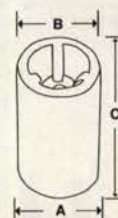
mm	A	B	C	D	E
1/4"	TM408	15/32	15/32	17/32	7/8
5/16"	TM410	9/16	17/32	17/32	7/8
3/8"	TM412	21/32	5/8	17/32	7/8

ASME/ANSI B107.1-1993



Three-Wing

#	A	B	C
#1	TTW11	15/32	15/32
#2	TTW12	7/8	15/32



Shallow TORX®

#	A	B	C
E4	TLE40A	7/16	17/64
E5	TLE50A	7/16	19/64
E6	TLE60A	7/16	21/64
E7	TLE70A	7/16	23/64
E8	TLE80A	7/16	27/64
E10	TLE100A	1/2	7/16

213AFLEY TORX® Set. Includes 1/4" drive TLE40A thru TLE100A, 3/8" drive FLE110A thru FLE140A (pg. 102) and 1/2" drive SLE160 thru SLE240 (page 124) (13 pcs) (E4 to E24) on socket rail with clips.

210AFLEY TORX® Set. 1/4" drive TLE40A thru TLE80A plus 3/8" drive FLE100A thru FLE180A (pg. 102) (10 pcs) (E4 thru E18) on A265 Socket Rail and Clips.



210AFLEY



Deep TORX®

Deep design allows access to hard to reach bolts found on GM, Ford and Chrysler steering columns with air bags. Needed to service GM ABITS distributor on 1992 thru 1995 GM, LT1 350 V8 engines.

#	A	B	C
E4	STLE40	15/32	9/32
E5	STLE50	15/32	5/16
E6	STLE60	15/32	11/32
E7	STLE70	15/32	3/8
E8	STLE80	15/16	13/32
E10	STLE100	2	7/16

106STLEY Deep TORX® Set. STLE40 thru STLE100 (6 pcs) (E4 to E10) on A265 Socket Rail and Clips.



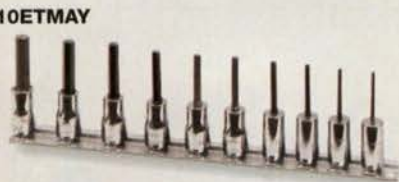
WARNING

- Do not use chrome or industrial finish hand tools with power drivers.
- Read additional safety precautions on pages M1 to M4.




1/4" Drive Socket Drivers

110ETMAY



Hex

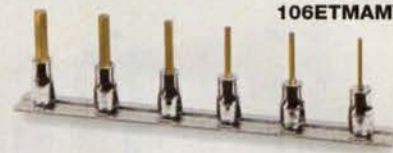
			A	B	B	A
1/16"	TMA2E	—	1 7/8	TMA2E2	TMAL2E2	6
5/64"	TMA2.5E	GTMA2.5E	1 7/8	TMA2.5E2	TMAL2.5E2	6
3/32"	TMA3E	GTMA3E	1 7/8	TMA3E2	TMAL3E2	6
7/64"	TMA3.5E	—	1 7/8	TMA3.5E2	TMAL3.5E2	6
1/8"	TMA4E	GTMA4E	1 7/8	TMA4E2	TMAL4E2	6
9/64"	TMA4.5E	—	1 7/8	TMA4.5E2	TMAL4.5E2	6
5/32"	TMA5E	GTMA5E	1 7/8	FA5E2	—	—
3/16"	TMA6E	GTMA6E	1 15/16	FA6E2	—	—
7/32"	TMA7E	GTMA7E	1 7/8	FA7E2	—	—
1/4"	TMA8E	GTMA8E	1 7/8	FA8E2	—	—

110ETMAY Hex Set. TMA2E thru TMA8E (10 pcs) (1/16" to 1/4") on A265 Socket Rail and Clips.


212EFTAY Combination Drive Hex Set. Includes 1/4" drive TMA2E thru TMA3.5E Hex Drivers plus 3/8" drive FA4E thru FA12E Hex Drivers (pg. 104) (12 pcs) (1/16" to 3/8") on A269 Socket Rail and Clips.



106ETMAMY



Hex

		A	B
2	TMAM2E	47.8	TMAM2E2
2.5	TMAM2.5E	47.8	TMAM2.5E2
3	TMAM3E	47.8	TMAM3E2
4	TMAM4E	47.8	FAM4E2
5	TMAM5E	47.8	FAM5E2
6	TMAM6E	47.8	FAM6E2

106ETMAMY Metric Hex Driver Set.

TMAM2E thru TMAM6E (6 pcs) (2 to 6mm) on A265 Socket Rail and Clips.


210EFTAMY Combination Drive Hex Set.

Includes 1/4" drive TMAM2E thru TMAM3E Standard Length Drivers plus 3/8" drive FAM4E thru FAM10E Standard Length Drivers (pg. 106) (10 pcs) (2 to 10mm) on A269 Socket Rail and Clips.

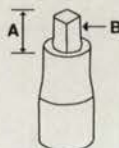
208EFTAXSY



Stubby Hex


		A	B
1/8"	TMAXS4E	1 1/32	TMAXS4E2
9/64"	TMAXS4.5E	1 1/16	TMAXS4.5E2
5/32"	TMAXS5E	1 1/16	TMAXS5E2
3/16"	TMAXS6E	1 3/32	TMAXS6E2

208EFTAXSY Combination Drive Stubby Hex Set. Includes 1/4" drive TMAXS4E thru TMAXS6E Stubby Drivers plus 3/8" drive FAXS7E thru FAXS12E Stubby Drivers (pg. 104) (8 pcs) (1/8" to 3/8") on A269 Socket Rail and Clips.



208EFTAMXSY

Stubby Hex


		A	B
3	TMAMXS3E	26	TMAMXS3E2
4	TMAMXS4E	27	TMAMXS4E2
5	TMAMXS5E	27	TMAMXS5E2
6	TMAMXS6E	29	TMAMXS6E2-5

208EFTAMXSY Combination Drive Metric Stubby Hex Set. Includes 1/4" drive TMAMXS3E thru TMAMXS6E Stubby Drivers plus 3/8" drive FAMXS7E thru FAMXS10E Stubby Drivers (pg. 106) (8 pcs) (3 to 10mm) on A265 Socket Rail and Clips.

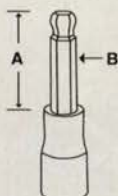
208EFTABY



Ball Hex


		A	B
1/8"	TMAB4E	1 7/8	TMAB4E2
9/64"	TMAB4.5E	1 7/8	TMAB4.5E2
5/32"	TMAB5E	1 7/8	TMAB5E2
3/16"	TMAB6E	1 15/16	TMAB6E2-2

208EFTABY Combination Drive Ball Hex Set. Includes 1/4" drive TMAB4E thru TMAB6E Ball Hex Drivers plus 3/8" drive FAB7E thru FAB12E Ball Hex Drivers (pg. 105) (8 pcs) (1/8" to 3/8") on A265 Socket Rail and Clips.

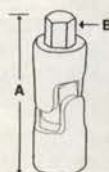


208EFTABMY


Ball Hex

		A	B
3	TMABM3E	47.7	TMABM3E2
4	TMABM4E	47.6	TMABM4E2
5	TMABM5E	47.9	TMABM5E2
6	TMABM6E	47.9	TMABM6E2

208EFTABMY Combination Drive Metric Ball Hex Set. Includes 1/4" drive TMABM3E thru TMABM6E Standard Length Drivers plus 3/8" drive FABM7E thru FABM10E Standard Length Drivers (pg. 106) (8 pcs) (3 to 10mm) on A265 Socket Rail and Clips.



Universal Stubby Hex

		A	B
5	TUAM5E	38.1	TUAM5E3
6	TUAM6E	38.1	TUAM6E3



Socket Drivers 1/4" Drive

Flat Tip

#		A	B
3/16 x .032	TMC104E	2 7/8	TMC104E2
1/4 x .032	TMC105E	2 15/16	TMC105E2
3/8 x .042	TMC106E	2 7/8	TMC106E2



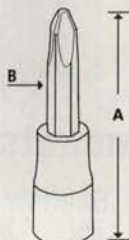
Short Flat Tip

#		A	B	C
1/4 x .036	TM82	7/8	TM82-2C	ESD303



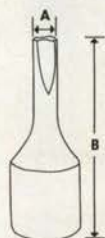
PHILLIPS®

#		A	B
#0	TMP01E	1 7/8	TMP01E2
#1	TMP12E	1 7/8	TMP12E2
#2	TMP22E	1 7/8	FP22E2



Short PHILLIPS®

#		A	B
#2	TMP21E	1 1/4	TMP21E2
#2	TMP82E	1 5/16	TMP82E2



Clutch

	A	B
TM27	3/16	1 3/8
TM30	1/4	1 3/8
TM31	5/32	1 3/8



Long PHILLIPS®

#		A	B
#2	TMP23E	3 1/16	TMP23E2



107ETTXY

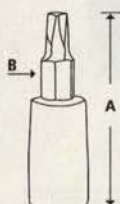


212EGFTXY



TORX®

#			A	B
T8	TTX8E	GTTX8E	1 9/16	TTX8E2
T10	TTX10E	GTTX10E	1 9/16	TTX10E2
T15	TTX15E	GTTX15E	1 9/16	TTX15E2
T20	TTX20E	GTTX20E	1 9/16	TTX20E2
T25	TTX25E	GTTX25E	1 9/16	TTX25E2
T27	TTX27E	—	1 9/16	FTX27E2
T30	TTX30E	—	1 9/16	FTX30E2
T40	TTX40E	—	1 9/16	FTX40E2



107ETTXY TORX® Set. TTX8E thru TTX40E (except TTX25E) (7 pcs) (T8 to T20, T27 to T40) on A265 Socket Rail and Clips.

212EFTXY Combination Drive TORX® Set. Includes 1/4" drive TTX8E thru TTX25E TORX® Drivers plus 3/8" drive FTX27E thru FTX55E TORX® Drivers and FTX500E TORX® Driver (pg. 107) (12 pcs) (T8 to T55) on A269 Socket Rail and Clips.

212EGFTXY Industrial Combination Drive TORX® Set. Includes 1/4" drive GTTX8E thru GTTX25E TORX® Drivers plus 3/8" drive GFTX27E thru GFTX55E TORX® Drivers and GFTX500E TORX® Driver (pg. 107) (12 pcs) (T8 to T55) on A269 Socket Rail and Clips.



210EFTXRY

Tamper Resistant TORX®

#		A	B
T8	TTXR8E	1 9/16	TTXR8E2
T10	TTXR10E	1 9/16	TTXR10E2
T15	TTXR15E	1 9/16	TTXR15E2
T20	TTXR20E	1 9/16	TTXR20E2
T25	TTXR25E	1 9/16	TTXR25E2

210EFTXRY Combination Drive Tamper-Resistant TORX® Set. Includes 1/4" drive TTXR8E thru TTXR25E TORX® Drivers plus 3/8" drive FTXR27E thru FTXR50E TORX® Drivers (pg. 107) (10 pcs) (T8 to T55) on A265 Socket Rail and Clips.



WARNING

- Do not use chrome or industrial finish hand tools with power drivers.
- Read additional safety precautions on pages M1 to M4.



Long TORX®

#		A	B
T8	TTXL8E	4 1/16	TTXL8E2
T10	TTXL10E	4 1/16	TTXL10E2
T15	TTXL15E	4 1/16	TTXL15E2
T20	TTXL20E	4 1/16	TTXL20E2
T25	TTXL25E	4 1/16	TTXL25E2

209EFTXBY



Heavy-Duty Removal TORX®

#		A	B
T15	TTXB15E	1 9/16	TTXB15E2
T20	TTXB20E	1 9/16	TTXB20E2
T25	TTXB25E	1 9/16	TTXB25E2

209EFTXBY Combination Drive Heavy-Duty Removal TORX® Set. Includes 1/4" drive TTXB15E thru TTXB25E TORX® Drivers plus 3/8" drive FTXB27E thru FTXB55E TORX® Drivers (pg. 107) (9 pcs) (T15 to T55) on A265 Socket Rail and Clips.

1/4" Drive



Shallow

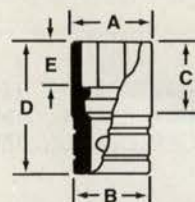
Size	Hex	A	B	C	D	E
3/16	GM6B	11/32	15/32	17/32	7/8	1/8
1/4	GM8B	7/16	15/32	17/32	7/8	5/32
5/16	GM10B	21/32	1/2	13/32	7/8	3/16
11/32	GM11B	15/32	17/32	13/32	7/8	3/16

Shallow

mm	Hex	A	B	C	D	E
5.5	GMM5.5	8.8	12.4	10.1	22.2	3.6
8	GMM8	11.8	12.4	10.1	22.2	4.3
10	GMM10	14.0	14.0	10.1	22.2	5.1



FLANK DRIVE® Power Sockets



Deep

mm	Hex	A	B	C	D	E
10	GSM10	14	14	38.1	50.8	5.3

FLANK DRIVE® Magnetic Power Sockets

Shallow Magnetic

Size	Hex	A	B	D	E
3/16	MGM6B	23/64	15/32	7/8	3/32
1/4	MGM8B	7/16	1/2	7/8	3/32
5/16	MGM10B	1/2	1/2	15/16	3/32
11/32	MGM11	17/32	17/32	15/16	3/32
3/8	MGM12C	9/16	19/32	15/16	1/8
7/16	MGM14C	11/16	11/16	15/16	1/8
1/2	MGM16	3/4	3/4	15/16	1/8



Shallow Magnetic

mm	Hex	A	B	D	E
5.5	MGMM5.5	9.9	12.4	22.2	1.9
6	MGMM6	10.9	12.4	22.2	2.0
7	MGMM7	11.9	14.0	22.2	2.0
8	MGMM8	12.7	14.0	22.2	2.4
10	MGMM10	14.8	14.8	23.8	3.1
11	MGMM11	17.2	17.2	23.8	3.5



New spring loaded design improves holding power and allows greater bolt clearance. Coercive force of spring loaded deep magnetic power sockets is 15 times higher than sockets with conventional design.



106MGMM5

Deep Magnetic-Spring Loaded

Size	Hex	A	B	D	E
1/4	MGMS8A	3/8	7/16	2	3/32
5/16	MGMS10A	3/8	15/32	2	5/16



Deep Magnetic-Spring Loaded

mm	Hex	A	B	D	E
7	MGMS7A	10.7	12.4	50.8	5.8
8	MGMS8A	11.8	12.4	50.8	5.8
10	MGMS10A	14.1	14.1	50.8	6.4
11	MGMS11B	15.6	15.6	50.8	6.4
12	MGMS12B	16.8	16.8	50.8	7.1
13	MGMS13A	18.1	18.1	50.8	7.6

106MGMM5 6-Point Deep Set. MGMS7A thru MGMS13A (6 pcs) (7 to 13mm).

210EPTXY



TORX® Power Drivers

Size	Hex	A	B
T15	PTTX15E	1 9/16	TTX15E2
T20	PTTX20E	1 9/16	TTX20E2
T25	PTTX25E	1 9/16	TTX25E2

210EPTXY Combination Drive TORX® Set. Includes 1/4" drive PTTX15E thru PTTX25E Drivers, 3/8" drive PFTX27E thru PFTX40E Drivers (pg. 109) plus 1/2" drive PSTX45E, PSTX50E, PSTX55E, and PSTX500E Drivers (pg. 126) (10 pcs) (T15 to T55) on A269 Socket Rail and Clips.

Power Drivers and Accessories



Swivel Ball Universal Joint

Lock button locking mechanism.

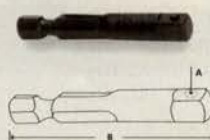
Part	A	B
IPM80A	5/8	1 3/8



Hex Shanks

1/4" hex size; 1" length of hex.

Part	A	B
GMB3042	Friction Ball	2
GM3042A	Lock Button	2
GM3043	Lock Button	4
GM3046	Lock Button	6



Impact Sockets / Special Purpose

Shallow Twist

#		A	B	C
5/16	TSTY101A	1/2	1/2	7/8
3/8	TSTY121A	9/16	9/16	7/8
7/16	TSTY141A	21/32	21/32	1
1/2	TSTY161A	23/32	23/32	1
9/16	TSTY181A	13/16	13/16	1 1/32

105TSTYA TSTY101A thru TSTY181A (5 pcs)
(5/16" to 9/16").

Shallow Twist

mm		A	B	C
6	TSTY6A	12.1	10.2	22.2
8	TSTY8A	12.7	12.7	22.2
10	TSTY10A	15.2	15.2	22.2
12	TSTY12A	17.3	17.3	25.4
14	TSTY14A	20.5	20.5	26.2

105TSTMYA TSTY6A thru TSTY14A (5 pcs)
(6 to 14mm).

Deep Twist

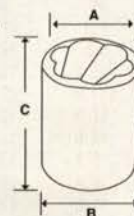
#		A	B	C
5/16	TSTSY101A	1/2	1/2	2
3/8	TSTSY121A	9/16	9/16	2
7/16	TSTSY141A	21/32	21/32	2
1/2	TSTSY161A	23/32	23/32	2
9/16	TSTSY181A	13/16	13/16	2

105TSTSYA TSTSY101A thru TSTSY181A (5 pcs)
(5/16" to 9/16").

Deep Twist

mm		A	B	C
6	TSTSY6A	12.1	10.2	50.8
8	TSTSY8A	12.7	12.7	50.8
10	TSTSY10A	15.2	15.2	50.8
12	TSTSY12A	17.3	17.3	50.8
14	TSTSY14A	20.5	20.5	50.8

105TSTSMYA TSTSY6A thru TSTSY14A (5 pcs)
(6 to 14mm).



Shallow TORX®

#		A	B	C	D	E
E4	IMTLE40A	9/32	1/2	17/32	7/8	5/32
E5	IMTLE50A	5/16	1/2	17/32	7/8	3/16
E6	IMTLE60A	11/32	1/2	17/32	7/8	3/16
E7	IMTLE70A	3/8	1/2	17/32	7/8	1/4
E8	IMTLE80A	7/16	1/2	17/32	7/8	1/4

210IMFLEYA Includes 1/4" drive IMTLE40A thru IMTLE80A Sockets plus 3/8" drive IMFLE100A thru IMFLE180A Sockets (pg. 102) (10 pcs) (E4 to E18) on A265 Socket Rail and Clips.

112IMTMMY

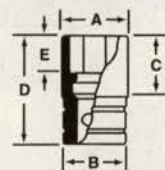


Shallow

mm	6	A	B	C	D	E
5	IMTMM5	8.5	12.1	13.1	22.2	4.1
5.5	IMTMM5.5	9.3	12.1	13.1	22.2	4.1
6	IMTMM6	10.2	12.1	13.1	22.2	6.1
7	IMTMM7	11.5	12.1	13.1	22.2	6.1
8	IMTMM8	12.7	12.7	13.1	22.2	6.1
9	IMTMM9	14.0	14.0	13.1	22.2	6.1
10	IMTMM10	15.2	15.2	13.0	22.2	6.1
11	IMTMM11	16.4	16.4	12.8	22.2	6.4
12	IMTMM12	17.3	17.3	12.7	22.2	7.1
13	IMTMM13	18.7	18.7	12.5	22.2	7.4
14	IMTMM14	20.3	20.3	13.1	23.0	8.6
15	IMTMM15	21.1	21.1	13.9	23.8	8.9

112IMTMMY Metric 6-Point Shallow Set. IMTMM5 thru IMTMM15 (12 pcs) (5 to 15mm) on A269 Socket Rail and Clips.

FLANK DRIVE® Impact Sockets



Shallow

#	6	A	B	C	D	E
1/4	IMTMS8A	13/32	1/2	17/32	7/8	1/4
5/16	IMTMS10A	1/2	1/2	17/32	7/8	1/4
3/8	IMTMS12A	9/16	1/2	17/32	7/8	1/4
7/16	IMTMS14A	21/32	1/2	17/32	7/8	1/4
1/2	IMTMS16A	23/32	1/2	17/32	7/8	9/32
9/16	IMTMS18A	13/16	1/2	9/16	29/32	11/32

Semi-Deep

#	6	A	B	C	D	E
1/4	IMTMS8	13/32	15/32	29/32	1 1/4	1/4
5/16	IMTMS10	1/2	1/2	3/4	1 1/4	1/4
3/8	IMTMS12	9/16	9/16	3/4	1 1/4	1/4
7/16	IMTMS14	21/32	21/32	3/4	1 1/4	1/4
1/2	IMTMS16	11/16	11/16	3/4	1 1/4	9/32
9/16	IMTMS18	13/16	13/16	3/4	1 1/4	11/32

106IMTMSY 6-Point Semi-Deep Set. IMTMS8 thru IMTMS18 (6 pcs) (1/4" to 9/16") on A265 Socket Rail and Clips.



WARNING

- Do not use power sockets or accessories with impact drivers.
- Do not hold swivel joint tools during use.
- Read additional safety precautions on pages M1 to M4.



1/4" Drive

112IMTMSY



Semi-Deep

mm	6	A	B	C	D	E
5	IMTMM5	8.5	12.1	22.9	31.8	4.1
5.5	IMTMM5.5	9.3	12.1	22.9	31.8	4.1
6	IMTMM6	10.2	12.1	22.9	31.8	6.1
7	IMTMM7	11.5	12.1	22.9	31.8	6.1
8	IMTMM8	12.7	12.7	19.1	31.8	6.1
9	IMTMM9	14.0	14.0	19.3	31.8	6.1
10	IMTMM10	15.2	15.2	19.3	31.8	6.1
11	IMTMM11	16.4	16.4	19.3	31.8	6.4
12	IMTMM12	17.3	17.3	19.3	31.8	7.1
13	IMTMM13	18.7	18.7	19.3	31.8	7.4
14	IMTMM14	20.3	20.3	19.3	31.8	8.6
15	IMTMM15	21.1	21.1	19.3	31.8	8.9

112IMTMSY Metric 6-Point Semi-Deep Set. IMTMM5 thru IMTMM15 (12 pcs) (5 to 15mm) on A269 Socket Rail and Clips.

106SIMTMY

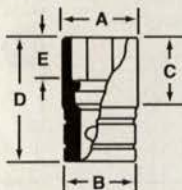


Deep

mm	6	A	B	C	D	E
1/4	SIMTM8	13/32	15/32	1 1/2	2	1/4
5/16	SIMTM10	1/2	1/2	1 1/2	2	1/4
3/8	SIMTM12	9/16	9/16	1 1/2	2	1/4
7/16	SIMTM14	21/32	21/32	1 1/2	2	1/4
1/2	SIMTM16	11/16	11/16	1 1/2	2	9/32
9/16	SIMTM18	13/16	13/16	1 1/2	2	11/32

106SIMTMY 6-Point Deep Set. SIMTM8 thru SIMTM18 (6 pcs) (1/4" to 9/16") on A265 Socket Rail and Clips.

FLANK DRIVE® Impact Sockets



112SIMTMMY



Deep

mm	6	A	B	C	D	E
5	SIMTMM5	8.5	12.1	41.9	50.8	4.1
5.5	SIMTMM5.5	9.3	12.1	41.9	50.8	4.1
6	SIMTMM6	10.2	12.1	41.9	50.8	6.1
7	SIMTMM7	11.5	12.1	41.9	50.8	6.1
8	SIMTMM8	12.7	12.7	41.9	50.8	6.1
9	SIMTMM9	14.0	14.0	41.9	50.8	6.1
10	SIMTMM10	15.2	15.2	41.9	50.8	6.1
11	SIMTMM11	16.4	16.4	41.9	50.8	6.4
12	SIMTMM12	17.3	17.3	41.9	50.8	7.1
13	SIMTMM13	18.7	18.7	41.9	50.8	7.4
14	SIMTMM14	20.3	20.3	41.9	50.8	8.6
15	SIMTMM15	21.1	21.1	41.9	50.8	8.9

112SIMTMMY Metric 6-Point Deep Set. SIMTMM5 thru SIMTMM15 (12 pcs) (5 to 15mm) on A269 Socket Rail and Clips.

FLANK DRIVE® Impact Swivel Sockets

112IPTMMY



Shallow Swivel

mm	6	A	B	D	E
5	IPTMM5	8.4	15.4	35.4	4.1
5.5	IPTMM5.5	9.3	15.4	35.8	4.1
6	IPTMM6	10.3	15.4	36.2	4.1
7	IPTMM7	11.5	15.4	37.4	4.3
8	IPTMM8	12.7	15.4	38.6	4.8
9	IPTMM9	14.0	15.4	39.8	5.3
10	IPTMM10	15.2	15.4	41.0	5.8
11	IPTMM11	16.4	15.4	42.5	6.4
12	IPTMM12	17.3	17.9	44.9	6.9
13	IPTMM13	18.7	17.9	46.1	7.4
14	IPTMM14	20.3	17.9	47.7	7.9
15	IPTMM15	21.1	17.9	48.1	7.9

112IPTMMY Metric 6-Point Shallow Set. IPTMM5 thru IPTMM15 (12 pcs) (5 to 15mm) on A269 Socket Rail and Clips.

106IPTMY



Shallow Swivel

mm	6	A	B	D	E
1/4	IPTM8	13/32	19/32	1 13/32	5/32
5/16	IPTM10	1/2	19/32	1 1/2	3/16
3/8	IPTM12	9/16	19/32	1 19/32	7/32
7/16	IPTM14	21/32	19/32	1 11/16	1/4
1/2	IPTM16	23/32	23/32	1 13/16	5/16
9/16	IPTM18	13/16	23/32	1 7/8	5/16

106IPTMY 6-Point Shallow Set. IPTM8 thru IPTM18 (6 pcs) (1/4" to 9/16") on A265 Socket Rail and Clips.

Impact Accessories



Swivel Ball Universal Joint

Friction Ball Retention Device.



	A	B
IPM800A	5/8	1 3/8



General Service Starter Sets

Build Your Own Set!

Start with the 206AFSP Handle Set and you've got the ideal basis for creating exactly the basic general service set you need. You can add any of the suggested socket sets or choose from the many special purpose sockets available in both fractional and metric sizes. The 206AFSP Set is packaged in the blow-molded PB16B Plastic Case, which has a large enough cavity to store as many as four rows of standard length sockets, two rows of deep or universal sockets, or combination of any of these.

206AFSP Handle Set

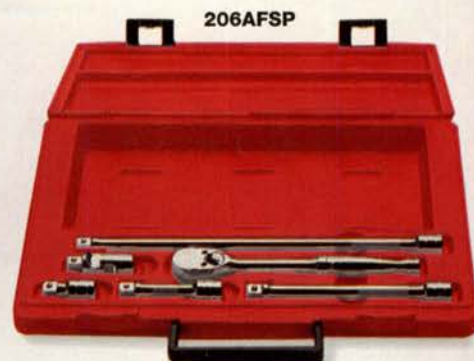
Includes F936 Sealed Ratchet, FU8A Universal Joint, FX1 Extension (1 1/2"), FXK3 Knurled Extension (3"), FXK6 Knurled Extension (6"), and FXK11 Knurled Extension (11") (6 pcs) in the PB16B Plastic Case.

Suggested Fractional Set Additions:

211FSY	6-Point Shallow Set
212FY	6-Point Shallow Set
211SFSY	6-Point Deep Set
211SFY	12-Point Shallow Set
207FSU	6-Point Deep Universal Set
211FDSY	12-Point Semi-Deep Set

Suggested Metric Set Additions:

212FSMY	6-Point Shallow Set
212SFSMY	6-Point Semi-Deep Set
212SFMY	12-Point Deep Set
212FSMSY	6-Point Semi-Deep Set
212FMSY	12-Point Semi-Deep Set
212FMY	12-Point Shallow Set



PALMRATKIT



PALMRATKIT 13 Tools Include:

PALMRAT	Palm Style Ratchet
FXWK3	Wobble Extension
F121	3/8" 12-Point Shallow Socket
F161	1/2" 12-Point Shallow Socket
F181	5/8" 12-Point Shallow Socket
FM8	8mm 12-Point Shallow Socket
FM10	10mm 12-Point Shallow Socket

Case features additional cavities for adding extra components.

FM12	12mm 12-Point Shallow Socket
FBSM8A	Magnetic Bit Socket
SDM213B	Flat Tip Bit
SDM211B	Flat Tip Bit
SDM221IRB	#1 PHILLIPS® ACR® Bit
SDM222IRB	#2 PHILLIPS® ACR® Bit



PIT2230E

PIT2230E Set. 36 pcs Include:

PIT120	Impact Driver
FA6E	3/16" Hex Driver w/extra FA6E2 Bit
FA7E	1/32" Hex Driver w/extra FA7E2 Bit
FA8E	1/4" Hex Driver w/extra FA8E2 Bit
FA10E	5/16" Hex Driver w/extra FA10E2 Bit
FA12E	3/8" Hex Driver w/extra FA12E2-5 Bit
F42E	1/4" Flat Tip Driver w/extra F42E2 Bit
F52E	5/16" Flat Tip Driver w/extra F52E2 Bit
F62E	3/8" Flat Tip Driver w/extra F62E2 Bit
FP22E	#2 PHILLIPS® Driver w/extra FP22E2 Bit
FP32E	#3 PHILLIPS® Driver w/extra FP32E2 Bit
FP41E	#4 PHILLIPS® Driver w/extra FP41E2-5 Bit
FP42E	#4 PHILLIPS® Driver w/extra FP42E2 Bit

Impact Driver Sets

F29A	3/8" Clutch Driver
F30	5/16" Clutch Driver
FPD22E	#2 POZIDRIV® Driver
IMF120A	3/8" 6-Point Impact Socket
IMF140A	7/16" 6-Point Impact Socket
IMF160	1/2" 6-Point Impact Socket
IMF180	5/8" 6-Point Impact Socket
IMF200	3/4" 6-Point Impact Socket
IMF220	1 1/8" 6-Point Impact Socket
IMF240	1 1/4" 6-Point Impact Socket
GF22	1 1/8" Drag Link Socket
KRA142	Metal Box

208EPIT Set. 8 pcs Include:

PIT120	Impact Driver
F42E	1/4" Flat Tip Driver
F52E	5/16" Flat Tip Driver
F62E	3/8" Flat Tip Driver
FP22E	#2 PHILLIPS® Driver
FP32E	#3 PHILLIPS® Driver
FP42E	#4 PHILLIPS® Driver
FPD22E	#2 POZIDRIV® Driver
PB108	Plastic Box



208EPIT



PIT120 Impact Driver

Delivers cam action impact when struck with a hammer for loosening or tightening fasteners. Industrial finish.



WARNING

- Do not use chrome or industrial finish hand tools with power drivers.
- Read additional safety precautions on pages M1 to M4



3/8" Drive General Service Sets

Inches, 6-Point

210AFSP



210AFSP 6-Point General Service Set. 10 Tools Include:

6-Point Shallow Sockets:

FS121 3/8"	FS201 5/8"
FS141 7/16"	FS221 1 1/16"
FS161 1/2"	FS241 3/4"
FS181 9/16"	

also includes:

F936	Standard Handle Sealed Ratchet
FXK3	3" Extension
FXK6	6" Extension

218AFSP 6-Point General Service Set (not shown). 18 Tools Include:

6-Point Shallow Sockets:

FS081 1/4"	FS201 5/8"
FS101 5/16"	FS221 1 1/16"
FS121 3/8"	FS241 3/4"
FS141 7/16"	FS261 13/16"
FS161 1/2"	FS281 7/8"
FS181 9/16"	

also includes:

F936	Standard Handle Sealed Ratchet	FU8A	Universal Joint
F4LB	Speeder	FXK3	3" Extension
F10LC	Breaker Bar	FXK6	6" Extension
		FXK11	11" Extension

222AFSP 6-Point General Service Set. 22 Tools Include:

6-Point Shallow Sockets:

FS121 3/8"
FS141 7/16"
FS161 1/2"
FS181 9/16"
FS201 5/8"
FS221 1 1/16"
FS241 3/4"

6-Point Deep Sockets:

SFS121 3/8"
SFS141 7/16"
SFS161 1/2"
SFS181 9/16"
SFS201 5/8"
SFS221 1 1/16"
SFS241 3/4"

also includes:

F936	Standard Handle Sealed Ratchet
S9704KA	6 pt. Spark Plug Socket
S9706KA	6 pt. Spark Plug Socket
F10LC	Breaker Bar
FU8A	Universal Joint
FXK3	3" Extension
FXK4	4" Extension
FXK8	8" Extension
PB17B	Plastic Box

222AFSP



Inches, 12-Point

218FPB



218FPB 12-Point General Service Set. 18 Tools Include:

12-Point Shallow Sockets:

F081 1/4"	F201 5/8"
F101 5/16"	F221 1 1/16"
F121 3/8"	F241 3/4"
F141 7/16"	F261 13/16"
F161 1/2"	F282 7/8"
F181 9/16"	

also includes:

F936	Standard Handle Sealed Ratchet	FXK3	3" Extension
		FXK6	6" Extension
		FXK11	11" Extension
F4LB	Speeder	KRA284B	Metal Box
F10LC	Breaker Bar		
FU8A	Universal Joint		

218AFP 6-Point General Service Set.

Same components as 218FPB without KRA284B Metal Box.

248FB 12-Point General Service Set. 48 Tools Include:

12-Point Shallow Sockets:

F081 1/4"
F101 5/16"
F111 1 1/32"
F121 3/8"
F141 7/16"
F161 1/2"
F181 9/16"
F201 5/8"
F221 1 1/16"
F241 3/4"
F261 13/16"
F281 7/8"

12-Point Deep Sockets:

SF081 1/4"
SF101 5/16"
SF121 3/8"
SF141 7/16"
SF161 1/2"
SF181 9/16"
SF201 5/8"
SF221 1 1/16"
SF241 3/4"
SF261 13/16"
SF281 7/8"

12-Point Universal Sockets:

FU10A 5/16"
FU12A 3/8"
FU14A 7/16"
FU16A 1/2"
FU18A 9/16"
FU20A 5/8"
FU22A 1 1/16"
FU24A 3/4"
FU26A 13/16"
FU28A 7/8"
FU30A 15/16"
FU32A 1"

also includes:

F936	Standard Handle Sealed Ratchet	F40B	Short Shank Driver	FXK4	4" Extension
F4LB	Speeder	FRS70A	Ratchet Spinner	FXK6	6" Extension
F5L	Sliding T-Handle	F67B	Ratchet Adaptor	FXK11	11" Extension
F10LC	Breaker Bar	FU8A	Universal Joint	FX61A	Flexible Extension
		FXK3	3" Extension	KRA250B	Metal Box

248FB



248F 12-Point General Service Set (Tools only).

Same components as 248FB without the KRA250B Metal box.

General Service Sets 3/8" Drive

Inches, 6/12-Point

292FB 6/12 Point General Service Set. 92 Tools Include:

6-Point Shallow Sockets:	Shallow, 6-Point (11 pcs.) (1/4" to 7/8")
6-Point Deep Sockets:	Deep, 6-Point (11 pcs.) (1/4" to 7/8")
12-Point Deep Sockets:	Deep, 12-Point (11 pcs.) (1/4" to 7/8")
12-Point Shallow Sockets:	Shallow, 12-Point (12 pcs.) (1/4" to 7/8")
12-Point Shallow Univer. Sockets:	Universal, Shallow, 12-Point (12 pcs.) (5/16" to 1")

also includes:

F936	Standard Handle Sealed Ratchet
FLF936	Sealed Flex-Head Ratchet
F4LB	Speeder
F5L	Sliding T-Handle
F10LC	Breaker Bar
F40B	Short Shank Driver
FRS70A	Ratchet Spinner
F67B	Ratchet Adaptor
FU8A	Universal Joint
FX1	1 1/2" Extension
FXK3	3" Extension
FXK4	4" Extension
FXK6	6" Extension
FXK8	8" Extension
FXK11	11" Extension

FX61A	Flexible Extension
GF22	Drag Link Socket
F23E	1/4" Flat Tip Socket Driver
F25E	5/16" Flat Tip Socket Driver
F31E	3/8" Flat Tip Socket Driver
F29A	3/8" Clutch-Type Driver
F30	5/16" Clutch-Type Driver
FA5E	5/32" Hex Driver
FA6E	3/16" Hex Driver
FA7E	7/32" Hex Driver
FA8E	1/4" Hex Driver
FA10E	5/16" Hex Driver
FA12E	3/8" Hex Driver

FP22E	#2 PHILLIPS® Driver
FP32E	#3 PHILLIPS® Driver
FP42E	#4 PHILLIPS® Driver
PP409A	5/32" Pipe Plug Socket
PP410A	5/16" Pipe Plug Socket
PP412A	3/8" Pipe Plug Socket
S9704KFAU	13/16" Spark Plug Universal Socket
KRA250B	Metal Box



292F 6/12 Point General Service Set (Tools only).

Same components as 292FB without the KRA250B Metal box.

222AFSMP 6-Point Metric General Service Set. 22 Tools Include:

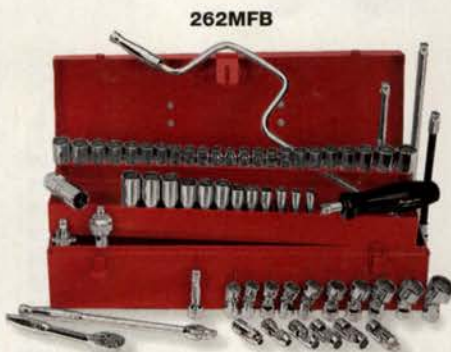
6-Point Shallow Sockets:	6-Point Deep Sockets:	also includes:
FSM101 10mm	SFSM10 10mm	F936 Standard Handle Sealed Ratchet
FSM111 11mm	SFSM11 11mm	FU8A Universal Joint
FSM131 13mm	SFSM13 13mm	F10LC Breaker Bar
FSM141 14mm	SFSM14 14mm	FXK3 3" Extension
FSM151 15mm	SFSM15 15mm	FXK4 4" Extension
FSM171 17mm	SFSM17 17mm	FXK8 8" Extension
FSM191 19mm	SFSM19 19mm	S9704KA 13/16" Spark Plug Socket
		S9706KA 5/8" Spark Plug Socket
		PB17B Plastic Box



Metric, 6/12-Point

262MFB 6/12-Point Metric General Service Set. 62 Tools Include:

6-Pt. Shallow Sockets:	12-Pt. Shallow Sockets:	12-Pt. Deep Sockets:	6-Pt. Shallow Universal Sockets:
FSM81 8mm	FM9 9mm	SFM 8mm	FSUM7 7mm
FSM91 9mm	FM10 10mm	SFM9 9mm	FSUM8 8mm
FSM101 10mm	FM11 11mm	SFM10 10mm	FSUM10 10mm
FSM111 11mm	FM12 12mm	SFM11 11mm	FSUM11 11mm
FSM121 12mm	FM13 13mm	SFM12 12mm	FSUM12 12mm
FSM131 13mm	FM14 14mm	SFM13 13mm	FSUM13 13mm
FSM141 14mm	FM15 15mm	SFM14 14mm	FSUM14 14mm
FSM151 15mm	FM16 16mm	SFM15 15mm	FSUM15 15mm
FSM161 16mm	FM17 17mm	SFM16 16mm	FSUM16 16mm
FSM171 17mm	FM18 18mm	SFM17 17mm	FSUM17 17mm
FSM181 18mm	FM19 19mm	SFM18 18mm	FSUM18 18mm
FSM191 19mm		SFM19 19mm	FSUM19 19mm
			FSUM21 21mm
			FSUM22 22mm
			FSUM24 24mm



also includes:

F936	Standard Handle Sealed Ratchet	FRS70A	Ratchet Spinner	FXK11	11" Extension
F4LB	Speeder	F67B	Ratchet Adaptor	FX61A	Flexible Extension
F10LC	Breaker Bar	FU8A	Universal Joint	S9704KA	13/16" Spark Plug Socket
F40B	Short Shank Driver	FXK3	3" Extension	KRA250B	Metal Box
		FXK6	6" Extension		



WARNING

- Do not use chrome or industrial finish hand tools with power drivers.
- Read additional safety precautions on pages M1 to M4



See Warranty Information on inside front cover.

3/8" Drive Ratchets

High Strength Sealed Ratchets

Patented design features high-tech seals and special O-rings to seal in permanent lubrication and seal out dust, dirt, moisture, and other contaminants. You get a smooth-running ratchet without the responsibility of routine maintenance. U.S. Patent 4,934,220 and 6,125,722.

Round Head Ratchets

Round Head ratchets feature a slim design—plus a strong 72-tooth gear action for use in confined areas.

Multi-Position Head Ratchet

Multi-Position Head Ratchet provides incredible versatility with 17 different ratcheting positions. Change head from locked to unlocked position by pressing the spline mechanism. One-finger control indicates ON/OFF position at a glance. With head in the unlocked position, a simple push/pull motion speeds work in restricted access environments. Use 360° cranking motion for speed ratcheting. 5° or 10° gear action permits minimal movement to catch the next tooth on the ratchet. Sealed head seals in lubricant and seals out dust, dirt and moisture. Covered by U.S. Patents 5,419,221, 5,495,783 and 6,101,907.

HY-LOK® Fastener Ratchet

Features a hole through the head and square drive so the fastener may be held steady with a hex wrench as the fastener's collar is tightened.

High Strength Sealed Head Ratchets

F936

FK936

FR936

FKF936

FX936

FLF936

FL936

FC936

FCF936

FSLF936

Round Head Ratchets

F872

GF872

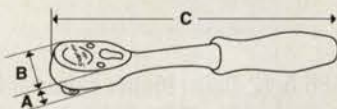
FL872



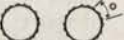

Multi-Position Head Ratchet

F872MP

HY-LOK® Fastener Ratchet

GF730HL



						A	B	C		
High Strength Sealed Head Ratchets										
F936	▲ ■	GF936	Standard Handle	Sealed	36	10°	5/8	1 5/32	7 11/32	RKRF936
FK936	—	—	Stubby Handle	Sealed	36	10°	5/8	1 5/32	4 5/32	RKRF936
FL936	—	GFL936	Long Handle	Sealed	36	10°	5/8	1 5/32	10 5/16	RKRF936
FLF936	▲	GFLF936	Long Flex-Handle	Sealed	36	10°	5/8	1 5/32	11 1/2	RKRF936
FKF936	▲	—	Stubby Flex-Handle	Sealed	36	10°	5/8	1 5/32	4 3/4	RKRF936
FBF936	▲	—	Bent Flex-Handle	Sealed	36	10°	5/8	1 5/32	11 1/8	RKRF936
FSLF936	▲	—	Speeder Flex-Handle	Sealed	36	10°	5/8	1 5/32	13 3/4	RKRF936
F936FOD	—	—	Standard Handle (F.O.D. Version)	Sealed	36	10°	5/8	1 5/32	7 11/32	—
FC936	▲	—	Short Handle	Sealed Compact	36	10°	7/16	7/8	4 7/16	RKRFC936
FCF936	▲	—	Flex-Handle	Sealed Compact	36	10°	7/16	7/8	6 1/8	RKRFC936
FX936	—	—	Locking Flex-Handle	Sealed	36	10°	9/16	1 5/32	11 1/4	RKRF936
FR936	▲	—	Standard Handle	Sealed/Quick Release	36	10°	5/8	1 5/32	7 11/32	RKRF936
Round Head Ratchets										
F872	▲	GF872	Standard Handle	Round	72	5°	9/16	1 1/4	7 19/32	RKRF872B
FL872	▲	—	Long Handle	Round	72	5°	9/16	1 1/4	10 1/4	RKRF872B
Multi-Position Head Ratchet										
F872MP	—	—	Multi-Position (Indexing)	Round	72	5°	2 1/32	1 7/32	10 1/4	RKRF872A
HY-LOK® Fastener Ratchet										
—	▲	GF730HL	Standard Handle	HY-LOK®	9/16	18°	9/16	1 5/32	7 3/8	—

▲ Aerospace Spec. AS4283 Rev-A

▲ ASME/ANSI B107.10M-1996

▲ Read safety precautions on pages M1 to M4.

Ratchets 3/8" Drive

Comfort Handle Ratchets



FH936A



FHB936A



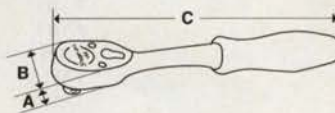
FHL936A



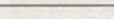


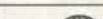


FHF936A



FHL936A



						H	W	L	
FH936A	Standard Length	Sealed	Red (Soft Grip)	36	10°	5/8	1 5/32	9 9/16	RKRF936
FHL936A	Long Handle	Sealed	Red (Soft Grip)	36	10°	5/8	1 5/32	12 1/2	RKRF936
FHF936A	Flex-Handle	Sealed	Red (Soft Grip)	36	10°	5/8	1 5/32	9 9/16	RKRF936
FHLF936A	Long Flex-Handle	Sealed	Red (Soft Grip)	36	10°	5/8	1 5/32	13 5/8	RKRF936
FHB936A	Bent Flex-Handle	Sealed	Red (Soft Grip)	36	10°	5/8	1 5/32	13 5/16	RKRF936
FH747	Flex-Handle	Round	Red (Soft Grip)	49	7°	11/16	1 3/4	12 3/4	RKRF749

ASME/ANSI B107.10M-1996

Specialty Ratchets



FZ936



F67B



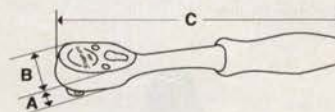
FRS70A










CFS949A



PALMRAT



							A	B	C	
FZ936	—	Multi-Purpose	Sealed	—	36	10°	5/8	1 5/32	3 1/16	RKRF936
FRS70A	—	Ratchet Spinner	—	—	—	—	1 5/32	—	1 1/4 (dia.)	—
F67B	GF67B	Ratchet Adaptor	—	—	20	18°	1 1/16	1 1/16	2 1/16 (dia.)	—
PALMRAT	—	Palm Style	—	Black	20	18°	1 3/16	—	2 5/8	RKRPALMRAT
CFS949A	—	Composite (Insulating)	Round	Orange	49	7.3°	1 1/4	1 19/32	8 3/4	RKRCFS949

ASME/ANSI 107.10M-1996



CAUTION

- Frequently inspect, clean, and lubricate all non-sealed ratchet mechanisms with light oil.
- Do not replace worn parts individually; use entire contents of the service kit.

See Warranty Information on inside front cover.



WARNING

- Do not use chrome or industrial finish hand tools with power drivers.
- Read additional safety precautions on pages M1 to M4



3/8" Drive

Ratchet Sets



RAT803A

RAT803A Ratchet Set

Includes F936 Standard Length, FL936 Long Handle, and FLF936 Long Flex-Head (pg. 92) Sealed Ratchets (3 pcs) in a plastic tray.



RAT936

RAT936 Ratchet Set

Includes 1/4" drive T936 (pg. 76), 3/8" drive F936 (pg. 92) and 1/2" drive S936 (pg. 118) (3 pcs) in plastic tray.

Specialty Ratchet Set

PALMRATKIT



PALMRATKIT

13 Tools Include:

PALMRAT	Palm Style Ratchet
FXWK3	3" Wobble Extension
F121	3/8" 12-Point Shallow Socket
F161	1/2" 12-Point Shallow Socket
F181	3/4" 12-Point Shallow Socket
FM8	8mm 12-Pt. Shallow Socket
FM10	10mm 12-Pt. Shallow Socket
FM12	12mm 12-Pt. Shallow Socket
FBSM8A	Magnetic Bit Socket
SDM213B	Flat Tip Bit
SDM211B	Flat Tip Bit
SDM221IRB	#1 PHILLIPS® ACR® Bit
SDM222IRB	#2 PHILLIPS® ACR® Bit

Case features additional cavities for adding extra components.

Accessories



F40B



F50CSA

Plastic Handle Drivers



		A	B	C
F40B	Plastic Handle Driver	1/2	1	5 15/16
F50A	Plastic Handle Driver	1/2	5	9 15/16
F50CSA*	Plastic Handle Driver	1/2	3 3/32	8
FX62B	Plastic Handle Flexible Driver	3/8	4 7/8	9 1/4

*Includes a 3/8" internal square drive, allowing the driver to be used as an extension.



F50A



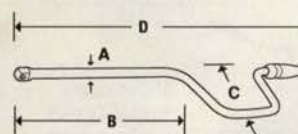
FX62B



F4LB

F4LBK

GF4LB



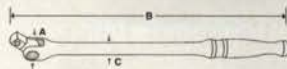
Speeders

		A	B	C	D
F4LB		13/32	7 7/8	3 1/2	17 27/32
F4LBK*		13/32	7 7/8	3 1/2	16 5/8
F4MB		13/32	14 3/4	3 1/4	24 11/16
F4NB		13/32	26 3/4	3 1/4	36 23/32

*Speeder with knob

Ratchet Accessories 3/8" Drive

Breaker Bars



		A	C	B
F10LC	GF10MA	3/4	15/32	9 9/16
F12LC	—	13/16	15/32	11 9/16
FHBB12	—	13/16	15/32	13

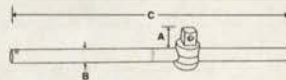
F10LC

F12LA

GF10MA

FHBB12

Sliding T-handles



		A	B	C
F5L	GF5L	3/4	13/32	8

Adaptors

		A	B	C
TM1	GTM1	3/8	1/4	1 1/8
TA3	GT3	1/4	3/8	1 5/16
A2A	GAF2A	3/8	1/2	1 5/16
A1MF	—	1/2	3/8	1 1/2



206EAU Adaptor/Extension Set.

Includes TM1 and A2A Adaptors; FU8A Universal Joint (pg. 96) and FX1, FXK3, and FXK6 Extensions (pg. 96) (6 pcs) in a plastic tray.

1206GS Combination Drive Adaptor Set.

Includes 1/4" drive TM1 and TA3 Adaptors (pg. 77), 3/8" drive A2A and A1MF Adaptors and 1/2" drive GLA12B and GLA62 Adaptors (pg. 119) (6 pcs) on socket rail and clips.



Magnetic Adaptors



		A	B	C
FXM112	—	5/16	9/32	1 25/32
FXM18	—	3/16	9/32	1 25/32



206XMSP Magnetic Adaptor Set.

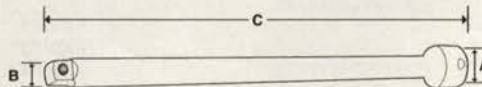
Includes 1/4" drive TMXM17 and TMXM114 Adaptors (pg. 77), 3/8" drive FXM18 and FXM112 Adaptors and 1/2" drive SXM212 and SXM222 Adaptors (pg. 119) (6 pcs) on a socket rail and clips.



206XMSP

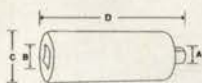
Extension Adaptors

	A	B	C
GAX5	1/2	3/8	5
GAX12	1/2	3/8	12
GAX24	1/2	3/8	23 1/4
GAX36	1/2	3/8	36



Composite (Insulating) Adaptors

Each tool is individually tested to ensure protection up to 1000V. These tools meet or exceed European Standards EN60900 and IEC60900 for dielectric strength tests and design requirements, ASTM 1505 and VDE 0680, Type Test Requirements. These tools meet or exceed ASME B107.1, B107.10M, ISO 1711 and ISO 3315 strength requirements for standard, non-insulated steel tools. U.S. Patents 5,394,773, 5,448,932 and 5,875,693 apply.



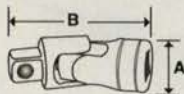
	A	B	C	D
CA1MF	1/2	3/8	1 5/16	3 25/32
CA2A	3/8	1/2	1	3 7/8

WARNING

- Do not use power sockets or accessories with impact drivers.
- Do not hold swivel joint tools during use.
- Do not use chrome or industrial finish hand tools with power drivers.
- Do not use damaged tool.
- Be properly trained.
- Misuse, shock, or broken tool can cause injury.
- Read additional safety precautions on pages M1 to M4.

3/8" Drive Accessories

Universal Joints



Universal Joints

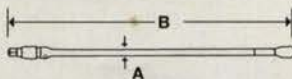
		A	B
•FU8A	GFU8A	3/4	1 15/16
•FU80B	—	1 1/16	1 5/8
•FUB8A	—	1	2 1/8

*Swivel Universal Joint

•ASME/ANSI B107.10M-1996

103UFTS Universal Joint Set. Includes 1/4" drive TMU8B (pg. 77), 3/8" drive FU8A and 1/2" drive S8 (pg. 120) Universal Joints (3 pcs) in a plastic tray.

Extensions



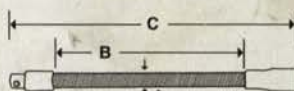
Extensions-Friction Ball

		A	B
FX1	GFX1	1/2	1 1/2
FXK3*	GFXK3*	13/32	3
FXK4*	—	13/32	4
FXK6*	GFXK6*	13/32	6
FXK8*	GFXK8*	13/32	8
FXK11*	GFXK11*	13/32	11
FX18	—	1/2	18
FX24A	—	1/2	24
FX36	—	1/2	36

*Knurling at the drive end provides for easy fingertip turning.

208AFX Extension Set. FX1 thru FX24A (8 pcs) (1 1/2" to 24") in a plastic tray.

206AFX Extension Set. FX1 thru FXK11 (6 pcs) (1 1/2" to 11") in a plastic tray.



Flexible Extension

	A	B	C
FX61A	3/8	5 3/8	8

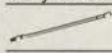
Composite (Insulating) Extensions

Each tool is individually tested to ensure protection up to 1000V. These tools meet or exceed European Standards EN60900 and IEC60900 for dielectric strength tests and design requirements, ASTM 1505 and VDE 0680, Type Test Requirements. These tools meet or exceed B107.10M and ISO 3315 strength requirements for standard, non-insulated steel tools. U.S. Patents 5,394,773, 5,448,932 and 5,875,693 apply.

	B	C	D
CFX3	3/8	2	3
CFX6	3/8	2	6
CFX12	3/8	2	12

Quick Release Extensions-Locking

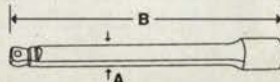
The quick release sleeve releases socket from extension quickly and easily. Knurling at the drive end provides for easy fingertip turning.



	A	B
FXKL3	1/2	3
FXKL6	1/2	6
FXKL11	1/2	11
FXKL24	1/2	24

204FXKL Extension Set.

FXKL3 thru FXKL24 (4 pcs) (3", 6", 11", 24") in a plastic tray.



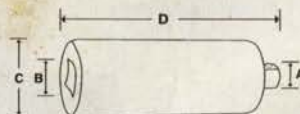
Wobble Plus Extensions-Friction Ball

	A	B
FXWP1	1/2	1 1/2
FXWP3*	13/32	3
FXWP4*	13/32	4
FXWP6*	13/32	6
FXWP8*	13/32	8
FXWP11*	13/32	11

*Knurled

206AFXWP Wobble Plus Drive Extension Set.

FXWP1 thru FXWP11 (6 pcs) (1 1/2" to 11") in a plastic tray.



FLANK DRIVE® Sockets 3/8" Drive

Shallow

	6	12	6	12	A	B	C	D	E
1/4	FS081	F081	GFS081	GF081	13/32	11/16	7/16	29/32	7/32
5/16	FS101	F101	GFS101	GF101	15/32	11/16	7/16	29/32	1/4
11/32	FS111	F111	—	GF111	1/2	11/16	7/16	29/32	9/32
3/8	FS121	F121	GFS121	GF121	9/16	11/16	7/16	29/32	9/32
7/16	FS141	F141	GFS141	GF141	5/8	11/16	7/16	29/32	9/32
1/2	FS161	F161	GFS161	GF161	23/32	11/16	1/2	15/16	5/16
9/16	FS181	F181	GFS181	GF181	25/32	3/4	1/2	1 1/32	3/8
19/32	—	F191	—	GF191	13/32	25/32	9/16	1 1/16	3/8
5/8	FS201	F201	GFS201	GF201	27/32	25/32	19/32	1 3/32	1/2
11/16	FS221	F221	GFS221	GF221	15/16	7/8	5/8	1 1/8	17/32
3/4	FS241	F241	GFS241	GF241	1	15/16	11/16	1 3/16	19/32
13/16	FS261	F261	GFS261	GF261	1 1/16	1	11/16	1 7/32	1/2
7/8	FS281	F281	GFS281	GF281	1 5/32	1 1/32	23/32	1 9/32	9/16
15/16	FS301	F301	GFS301	GF301	1 1/4	1 3/16	25/32	1 11/32	9/16
1	FS321	F321	GFS321	GF321	1 5/16	1 1/4	13/16	1 3/8	19/32

6-Point Chrome Sets:

214FSY 6-Point Shallow Set. FS081 thru FS321 (14 pcs) (1/4" to 1") on A267 Socket Rail and Clips.

211FSY 6-Point Shallow Set. FS081 thru FS281 (except FS111) (11 pcs) (1/4" to 7/8") on A269 Socket Rail and Clips.

Chrome Shallow/Deep Set:

222SFFS 6-Point Shallow/Deep Set. FS081 thru FS281 (except FS111) 6-Point Shallow Sockets plus SFS081 thru SFS281 (except SFS111) 6-Point Deep Sockets (pg. 98) (22 pcs) (1/4" to 7/8") in a plastic tray.

12-Point Chrome Sets:

212FY 12-Point Shallow Set. F081 thru F281 (except F191) (12 pcs) (1/4" to 7/8") on A269 Socket Rail and Clips.

211FY 21-Point Shallow Set. F081 thru F281 (except F111 and F191) (11 pcs) (1/4" to 7/8") on A269 Socket Rail and Clips.

6-Point Industrial Finish Set:

211GFSY 6-Point Industrial Shallow Set. GFS081 thru GFS281 (11 pcs) (1/4" to 7/8") on A269 Socket Rail and Clips.

12-Point Industrial Finish Set:

215GFY 12-Point Industrial Shallow Set. GF081 thru GF321 (15 pcs) (1/4" to 1") on A267 Socket Rail and Clips.



Shallow

mm	6	12	A	B	C	D	E
5.5	FSM5.51	—	9.1	17.2	10.1	23.0	5.6
6	FSM61	FM6	9.1	17.2	11.1	23.0	5.6
7	FSM71	FM7	10.4	17.2	11.1	23.0	5.6
8	FSM81	FM8	11.6	17.2	11.1	23.0	6.4
9	FSM91	FM9	13.1	17.2	11.0	23.0	7.1
10	FSM101	FM10	14.3	17.2	11.0	23.0	7.1
11	FSM111	FM11	15.4	17.2	11.0	23.0	7.1
12	FSM121	FM12	16.5	17.2	11.9	23.8	8.1
13	FSM131	FM13	18.0	17.2	12.6	24.6	8.1
14	FSM141	FM14	19.6	18.6	13.2	26.2	9.1
15	FSM151	FM15	20.3	19.4	13.7	27.0	9.1
16	FSM161	FM16	21.1	20.2	15.0	27.8	10.4
17	FSM171	FM17	22.7	21.8	15.0	28.6	10.4
18	FSM181	FM18	24.3	23.2	15.7	28.6	10.9
19	FSM191	FM19	25.1	24.0	16.3	30.2	11.9
20	FSM201	FM20	26.3	25.3	16.6	40.0	12.4
21	FSM211	FM21	27.4	26.4	17.4	31.8	12.2
22	FSM221	FM22	28.3	27.2	17.4	32.5	13.2
23	FSM231	FM23	29.9	28.8	18.2	33.8	13.2
24	FSM241	FM24	31.5	30.5	19.0	35.0	14.4
25	FSM251	FM25	32.3	31.3	19.8	35.3	14.5
26	FSM261	FM26	33.8	32.9	20.6	37.0	14.3

Metric 6-Point Chrome Sets:

222FSMY Metric 6-Point Shallow Set. FSM5.51 thru FSM261 (22 pcs) (5.5 to 26mm) on two A269 Socket Rails and Clips.

212FSMY Metric 6-Point Shallow Set. FSM81 thru FSM191 (12 pcs) (8 to 19mm) on A269 Socket Rails and Clips.

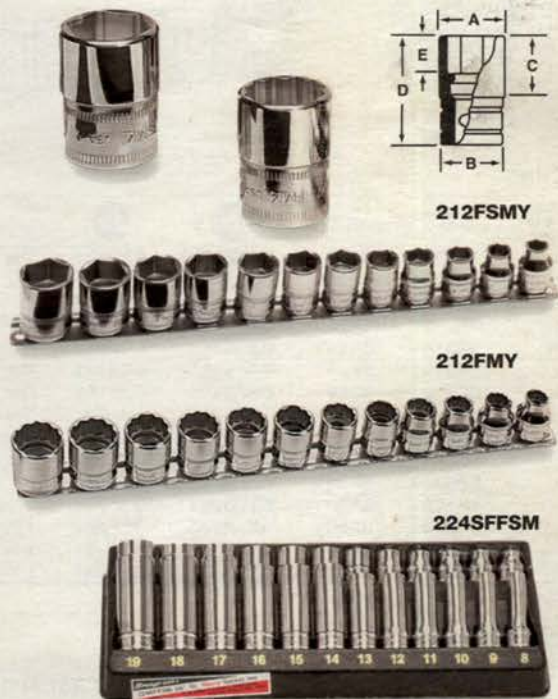
Metric 12-Point Chrome Sets:

219FMY Metric 12-Point Shallow Set. FM6 thru FM26 (except FM24 and FM25) (19 pcs) (6 to 23mm, 26mm) on two A269 Socket Rails and Clips.

212FMY Metric 12-Point Shallow Set. FM8 thru FM19 (12 pcs) (8 to 19mm) on A269 Socket Rail and Clips.

Chrome Shallow/Deep Set:

224SFFSM Metric 6-Point Shallow/Deep Set. FSM81 thru FSM191 6-Point Shallow Sockets plus SFSM8 thru SFSM19 6-Point Deep Sockets (pg. 99) (24 pcs) (8 to 19mm) in a plastic tray.



WARNING

- Do not use power sockets or accessories with impact drivers.
- Do not hold swivel joint tools during use.
- Do not use chrome or industrial finish hand tools with power drivers.
- Do not use damaged tool.
- Be properly trained.
- Misuse of insulating tools can cause shock or breakage.
- Read additional safety precautions on pages M1 to M4.



3/8" Drive FLANK DRIVE® Sockets

Semi-Deep

	6	12	A	B	C	D	E
1/4"	FSS081	FDS081	13/32	11/16	1 1/8	1 5/8	7/32
5/16"	FSS101	FDS101	15/32	11/16	1 1/8	1 5/8	9/32
3/8"	FSS121	FDS121	9/16	11/16	1 1/8	1 5/8	5/16
7/16"	FSS141	FDS141	5/8	11/16	1 1/8	1 5/8	3/8
1/2"	FSS161	FDS161	23/32	11/16	31/32	1 5/8	13/32
9/16"	FSS181	FDS181	25/32	23/32	31/32	1 5/8	13/32
5/8"	FSS201	FDS201	27/32	51/64	31/32	1 5/8	13/32
11/16"	FSS221	FDS221	15/16	7/8	31/32	1 5/8	7/16
3/4"	FSS241	FDS241	1	15/16	31/32	1 5/8	15/32
13/16"	FSS261	FDS261	1 1/16	1	31/32	1 5/8	1/2
7/8"	FSS281	FDS281	1 5/32	1 3/32	31/32	1 5/8	17/32

211FSSY 6-Point Semi-Deep Set. FSS081 thru FSS281 (except FSS11) (11 pcs)

(1/4" to 7/8") on A269 Socket Rail and Clips.

211FDSY 12-Point Semi-Deep Set. FDS081 thru FDS281 (11 pcs) (1/4" to 7/8") on A269 Socket Rail and Clips.



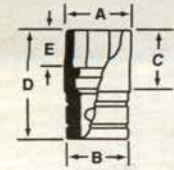
211FSSY



211FDSY



212FSMSY



212FMSY



Semi-Deep

mm	6	12	A	B	C	D	E
8	FSMS8	FMS8	11.4	17.2	29.3	41.3	7.1
9	FSMS9	FMS9	12.8	17.2	29.3	41.3	7.1
10	FSMS10	FMS10	14.3	17.2	29.3	41.3	7.9
11	FSMS11	FMS11	15.7	17.2	29.3	41.3	9.7
12	FSMS12	FMS12	16.5	17.2	29.3	41.3	9.9
13	FSMS13	FMS13	17.9	17.2	23.2	41.3	10.7
14	FSMS14	FMS14	19.6	18.6	23.2	41.3	10.7
15	FSMS15	FMS15	20.3	19.4	23.2	41.3	10.7
16	FSMS16	FMS16	21.1	20.2	23.0	41.3	10.7
17	FSMS17	FMS17	22.6	21.8	23.0	41.3	11.2
18	FSMS18	FMS18	24.2	23.2	23.0	41.3	11.2
19	FSMS19	FMS19	25.1	24.0	22.7	41.3	11.7

212FSMSY Metric 6-Point Semi-Deep Set. FSMS8 thru FSMS19 (12 pcs) (8 to 19mm) on A269 Socket Rail and Clips.

212FMSY Metric 12-Point Semi-Deep Set. FMS8 thru FMS19 (12 pcs) (8 to 19mm) on A269 Socket Rail and Clips.

DRIVE TUBE

Deep

	6	12	6	12	A	B	C	D	E
1/4"	SFS081	SF081	GSFS081	GSF081	15/32	11/16	1 11/16	2 1/8	1/4
5/16"	SFS101	SF101	GSFS101	GSF101	15/32	11/16	1 11/16	2 1/8	7/32
11/32"	SFS111	—	—	—	1/2	11/16	1 11/16	2 1/8	9/32
3/8"	SFS121	SF121	GSFS121	GSF121	9/16	11/16	1 11/16	2 1/8	5/16
7/16"	SFS141	SF141	GSFS141	GSF141	5/8	11/16	1 11/16	2 1/8	3/8
1/2"	SFS161	SF161	GSFS161	GSF161	23/32	11/16	1 11/16	2 1/8	7/16
9/16"	SFS181	SF181	GSFS181	GSF181	25/32	23/32	1 29/32	2 3/8	7/16
19/32"	—	SF191	—	—	13/16	25/32	1 29/32	2 3/8	7/16
5/8"	SFS201	SF201	GSFS201	GSF201	27/32	13/16	1 29/32	2 3/8	15/32
11/16"	SFS221	SF221	GSFS221	GSF221	15/16	7/8	2 3/16	2 5/8	1/2
3/4"	SFS241	SF241	GSFS241	GSF241	1	1	2 3/16	2 5/8	5/8
13/16"	SFS261	SF261	GSFS261	GSF261	1 1/16	1	2 1/4	2 3/4	5/8
7/8"	SFS281	SF281	GSFS281	GSF281	1 5/32	1 1/8	2 1/4	2 3/4	23/32
15/16"	SFS301	SF301	GSFS301	GSF301	1 1/4	1 3/16	2 1/4	2 3/4	23/32
1"	SFS321	SF321	GSFS321	GSF321	1 5/16	1 1/4	2 1/4	2 3/4	13/16

ASME/AMS B107.1-1993

6-Point Chrome Sets:

214SFSY 6-Point Deep Set. SFS081 thru SFS321 (14 pcs) (1/4" to 1") on A267 Socket Rail and Clips.

211SFSY 6-Point Deep Set. SFS081 thru SFS281 (except SFS111) (11 pcs) (1/4" to 7/8") on A269 Socket Rail and Clips.

12-Point Chrome Sets:

214SFY 12-Point Deep Set. SF081 thru SF321 (14 pcs) (1/4" to 1") on A267 Socket Rail and Clips.

211SFY 12-Point Deep Set. SF081 thru SF281 (except SF191) (11 pcs) (1/4" to 7/8") on A269 Socket Rail and Clips.

6-Point Industrial Finish Set:

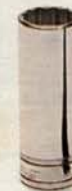
211GSFSY 6-Point Deep Set. GSFS081 thru GSFS281 (11 pcs) (1/4" to 7/8") on A269 Socket Rail and Clips.

12-Point Industrial Finish Set:

213GSFY 12-Point Deep Set. GSF081 thru GSF321 (13 pcs) (1/4" to 1") on A267 Socket Rail and Clips.



211SFSY



211GSFSY



211SFY



FLANK DRIVE® Sockets 3/8" Drive

212SFSMY

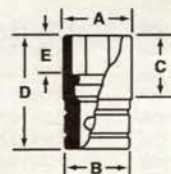


212SFMY



Deep

mm	6	12	A	B	C	D	E
6	SFSM6	SFM6	9.1	17.2	42.0	54.0	5.6
7	SFSM7	SFM7	10.5	17.2	42.0	54.0	5.6
8	SFSM8	SFM8	11.4	17.7	42.0	54.0	7.1
9	SFSM9	SFM9	12.8	17.2	42.0	54.0	7.1
10	SFSM10	SFM10	14.3	17.2	42.0	54.0	7.9
11	SFSM11	SFM11	15.7	17.2	42.0	54.0	9.7
12	SFSM12	SFM12	16.5	17.2	42.0	54.0	9.9
13	SFSM13	SFM13	18.0	17.2	42.0	54.0	10.7
14	SFSM14	SFM14	19.6	18.6	43.3	60.3	10.7
15	SFSM15	SFM15	20.3	19.4	43.3	60.3	10.7
16	SFSM16	SFM16	21.1	20.2	43.3	60.3	10.7
17	SFSM17	SFM17	22.7	21.8	43.6	66.7	11.2
18	SFSM18	SFM18	24.3	23.2	49.0	66.7	11.2
19	SFSM19	SFM19	25.1	24.0	49.0	66.7	15.5
20	SFSM20	—	26.3	25.3	48.1	66.7	12.2
21	SFSM21	—	27.5	26.4	47.6	66.7	12.4
22	SFSM22	—	28.3	27.2	54.2	73.0	13.0
23	SFSM23	—	29.9	28.8	54.5	73.0	13.2
24	SFSM24	—	31.5	30.5	58.2	73.0	14.7
25	SFSM25	—	32.3	31.3	57.4	73.0	14.5
26	SFSM26	—	33.8	32.9	57.2	73.0	15.0



6-Point Chrome Set:

221SFSMY Metric 6-Point Deep Set. SFSM6 thru SFSM26 (21 pcs) (6 to 26mm) on two A269 Socket Rails and Clips.

212SFSMY Metric 6-Point Deep Set. SFSM8 thru SFSM19 (12 pcs) (8 to 19mm) on A269 Socket Rail and Clips.

12-Point Chrome Sets:

214SFMY Metric 12-Point Deep Set. SFM6 thru SFM19 (14 pcs) (6 to 19mm) on A270 Socket Rail and Clips.

212SFMY Metric 12-Point Deep Set. SFM8 thru SFM19 (12 pcs) (8 to 19mm) on A269 Socket Rail and Clips.

FLANK DRIVE® Universal Sockets



206FUA



206AFSA



Shallow

mm	6	12	12	A	B	C	D
5/16	FS10B	FU10B	GFU10A	15/32	1 1/16	1 5/8	1/4
3/8	FS12B	FU12B	GFU12A	17/32	1 1/16	1 5/8	1/4
7/16	FS14B	FU14B	GFU14A	9/8	1 1/16	1 5/8	9/32
1/2	FS16B	FU16B	GFU16A	23/32	1 1/16	1 11/16	9/32
9/16	FS18B	FU18B	GFU18A	25/32	1 1/16	1 23/32	11/32
5/8	FS20B	FU20B	GFU20A	27/32	1 1/16	1 25/32	3/8
1 1/16	FS22B	FU22B	—	15/16	3/4	2	3/8
3/4	FS24B	FU24B	—	1	3/4	2 1/16	7/16
13/16	FS26B	FU26B	—	1 3/32	3/4	2 3/32	15/32
7/8	FS28B	FU28B	—	1 5/32	3/4	2 3/32	1/2
15/16	FS30B	FU30A	—	1 1/4	3/4	2 9/32	9/16
1	FS32B	FU32A	—	1 5/16	3/4	2 9/32	9/16

6-Point Chrome Set:

206AFSA 6-Point Shallow Set. FS14B thru FS24B (6 pcs) (7/16" to 3/4") in a plastic tray.

12-Point Chrome Sets:

212FUY 12-Point Shallow Set. FU10B thru FU32A (12 pcs) (5/16" to 1") on A267 Socket Rail and Clips.

206FUA 12-Point Shallow Set. FU14B thru FU24B (6 pcs) (7/16" to 3/4") in a plastic tray.



WARNING

- Do not use chrome or industrial finish hand tools with power drivers.
- Read additional safety precautions on pages M1 to M4.



3/8" Drive **FLANK DRIVE®** Universal Sockets

Shallow

mm	6	12	A	B	D	E
7	FSUM7A	—	10.4	17.2	43.1	5.6
8	FSUM8A	—	11.9	17.2	43.1	6.4
10	FSUM10A	FUM10A	14.0	18.1	43.5	6.4
11	FSUM11A	—	15.3	18.1	43.5	7.1
12	FSUM12A	FUM12A	16.8	18.1	45.5	7.9
13	FSUM13A	FUM13A	18.1	18.1	45.5	7.9
14	FSUM14A	FUM14A	18.9	18.1	47.9	8.9
15	FSUM15A	FUM15A	20.5	18.1	47.9	8.9
16	FSUM16A	FUM16A	21.3	18.1	47.9	10.2
17	FSUM17A	FUM17A	22.9	18.9	50.7	10.4
18	FSUM18A	FUM18A	24.5	18.9	50.7	10.7
19	FSUM19A	FUM19A	25.3	18.9	52.5	11.7
21	FSUM21A	—	27.4	18.9	53.9	12.4
22	FSUM22A	—	28.4	18.9	53.9	13.0
24	FSUM24A	—	31.5	18.9	57.1	14.7

6-Point Chrome Sets:

215FSUMY Metric 6-Point Shallow Set. FSUM7A thru FSUM24A (15 pcs) (7 to 24mm) on A270 Socket Rail and Clips.

206FSUMA Metric 6-Point Shallow Set. FSUM10A thru FSUM17A (except FSUM11A and FSUM16A) (6 pcs) (10 to 17mm) in a plastic tray.

12-Point Chrome Sets:

209FUMY Metric 12-Point Shallow Set. FUM10A thru FUM19A (9 pcs) (10 to 19mm) on A269 Socket Rail and Clips.



206FSUMA



Deep

mm	6	A	B	D	E
9/16	FSU10	15/32	11/16	2 13/32	9/32
3/8	FSU12	9/16	11/16	2 13/32	3/8
7/16	FSU14	5/8	11/16	2 13/32	7/16
1/2	FSU16	23/32	11/16	2 13/32	15/32
9/16	FSU18	25/32	11/16	2 13/32	17/32
5/8	FSU20	27/32	11/16	2 13/32	9/16
11/16	FSU22	15/16	3/4	2 15/32	9/16
3/4	FSU24	1	3/4	2 15/32	9/16

6-Point Chrome Set:

207FSU 6-Point Deep Set. FSU12 thru FSU24 (7 pcs) (3/8" to 3/4") in a plastic tray.

207FSU



Deep

mm	6	A	B	D	E
7	SFSUM7	10.8	17.2	63.6	6.1
8	SFSUM8	11.9	17.2	63.6	6.9
10	SFSUM10	14.4	18.1	63.6	7.4
11	SFSUM11	15.6	18.1	63.6	7.6
12	SFSUM12	17.1	18.1	63.6	8.1
13	SFSUM13	18.1	18.1	63.6	8.4
14	SFSUM14	18.9	18.1	63.6	9.1
15	SFSUM15	20.5	18.1	63.6	9.7
16	SFSUM16	21.3	18.1	63.6	10.4
17	SFSUM17	22.9	18.9	63.6	10.9
18	SFSUM18	24.5	18.9	63.6	10.9
19	SFSUM19	25.3	18.9	63.6	11.9
21	SFSUM21	28.3	18.9	63.6	12.4
22	SFSUM22	28.4	18.9	63.6	13.2
24	SFSUM24	31.6	18.9	63.6	14.7

6-Point Chrome Sets:

215SFSUMY Metric 6-Point Deep Set. SFSUM7 thru SFSUM24 (15 pcs) (7 to 24mm) on A270 Socket Rail and Clips.

206SFSUM Metric 6-Point Deep Set. SFSUM10 thru SFSUM17 (except SFSUM11 and SFSUM16) (6 pcs) (10 to 17mm) in a plastic tray.



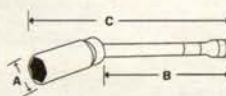
206SFSUM



Special Purpose Sockets 3/8" Drive

FLANK DRIVE® Spark Plug Sockets

#		A	B	C	Rubber Insert
<i>Standard Length (Chrome)</i>					
13/16"	S9704KA	7/8"	—	2 3/4"	S9705A2
5/8"	S9706KA	11/16"	—	2 27/32"	S9706KARI
3/4"	S9718KA	11/16"	—	2 13/32"	S9705A2
18mm	S9711KA	17.5mm	—	67.1mm	S9706KARI
<i>Extra Deep (Chrome)</i>					
5/8"	S9720KA	—	—	5 31/32"	S9706KARI
13/16"	S9719KA	—	—	5 7/8"	S9719-2A
<i>Flexible Extension (Chrome)</i>					
5/8"	FSXK320A	—	2 15/32"	5 11/32"	S9706KARI
5/8"	FSXK620A	—	5 15/32"	8 11/32"	S9706KARI
5/8"	FSXK1220A	—	11 15/32"	14 11/32"	S9706KARI
5/8"	FSXK2420A	—	23 15/32"	26 11/32"	S9706KARI
13/16"	FSXK326A	—	2 7/16"	5 3/16"	S9705A2
13/16"	FSXK626A	—	5 7/16"	8 3/16"	S9705A2
13/16"	FSXK1226A	—	11 7/16"	14 3/16"	S9705A2
13/16"	FSXK2426A	—	23 7/16"	26 3/16"	S9705A2
18mm	FSXMK418A	87.4mm	—	159.8mm	S9705A2
<i>Magnetic (Chrome)</i>					
5/8"	S9706KMAG	11/16"	—	2 19/32"	MSA3
13/16"	S9704KMAG	11/16"	—	2 11/16"	MSA2
<i>Universal (Chrome)</i>					
5/8"	S9706KFUA	—	—	3 23/32"	S9706KARI
13/16"	S9704KFUA	—	—	3 9/16"	S9705A2
<i>Double Swivel Universal (Industrial)</i>					
5/8"	S9721A*	—	—	4 13/16"	S9706KARI
13/16"	S9726A*	—	—	4 13/16"	S9705A2
<i>Ball Joint Swivel (Industrial)</i>					
5/8"	S9710KB	—	—	3 25/32"	S9706KARI
13/16"	S9709KB	—	—	3 25/32"	S9705A2



FSXK320A



S9706KA



S9720KA



S9706KMAG



S9706KFUA



S9721A



S9710KB

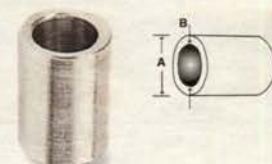


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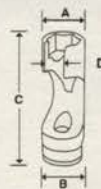
*Use double swivel universals for rear spark plug removal or installation on transverse V6 engines.

Magnetic Spark Plug Socket Inserts

A		B	Use With Snap-on® Sockets
0.540"	MSA1	5/8"	FSXK320A, FSXK620A, FSXK2420A
0.580"	MSA2	5/8", 13/16", 3/4", 18mm	S9706KA, S9706KFUA, S9709KB, S9710KB, S9711KA, S9718KA, S9721A, S9726A
0.700"	MSA3	13/16"	FSXK626A, FSXK2426A, S704KA, S704KFUA
0.785"	MSA4	—	S9704KMAG, S9706KMAG



207FRXY



FLANK DRIVE® Flare Nut Sockets

#		A	B	C	D
3/8	FRX121	5/8	3/4	2 3/32	17/64
7/16	FRX141	23/32	3/4	2 3/32	21/64
1/2	FRX161	13/16	3/4	2 1/8	3/8
9/16	FRX181	7/8	13/16	2 15/32	25/64
5/8	FRX201	15/16	7/8	2 27/32	29/64
11/16	FRX221	1	15/16	3 7/32	1/2
3/4	FRX241	1 1/16	1	3 11/32	9/16

207FRXY 6-Point Set. FRX121 thru FRX241 (7 pcs) (3/8" to 3/4") on A265 Socket Rail and Clips.

FLANK DRIVE® Flare Nut Sockets

mm		A	B	C	D
8	FRXM8	13.9	18.3	53.3	6.4
10	FRXM10	16.9	18.3	53.3	7.2
11	FRXM11	18.1	18.7	53.3	8.3
12	FRXM12	19.3	18.3	53.3	8.8
13	FRXM13	20.4	19.1	62.5	9.4
14	FRXM14	22.0	20.5	62.5	10.4
15	FRXM15	22.6	21.0	71.6	11.2
16	FRXM16	23.5	21.9	71.6	11.7
17	FRXM17	25.1	23.5	78.0	12.7
18	FRXM18	25.9	24.3	83.8	13.5
19	FRXM19	26.7	25.1	89.9	14.2

207FRXY 6-Point Set. FRXM10 thru FRXM19 (except FRXM11, FRXM13, and FRXM15) (7 pcs) (10 to 19 mm) on A265 Socket Rail and Clips



WARNING

- Do not use chrome or industrial finish hand tools with power drivers.
- Use only moderate force on flare nut sockets.
- Read additional safety precautions on pages M1 to M4.



3/8" Drive Special Purpose Sockets

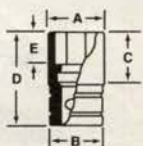
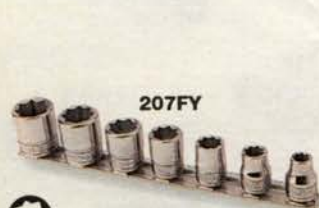


Shallow TORX®

#		A	B	C
E8	FLE80A	15/32	11/16	1 5/32
E10	FLE100A	1/2	11/16	1 5/32
E11	FLE110A	9/16	11/16	1 5/32
E12	FLE120A	9/16	11/16	1 5/32
E14	FLE140A	5/8	11/16	1 5/32
E16	FLE160A	3/4	11/16	1 1/4
E18	FLE180A	13/16	25/32	1 5/16

213AFLEY TORX® Set. Includes 1/4" drive TLE40A thru TLE100A (pg. 83), 3/8" drive FLE110A thru FLE140A and 1/2" drive SLE160 thru SLE240 (pg. 124) (13 pcs) (E4 to E24) on socket rail with clips.

210AFLEY TORX® Set. 1/4" drive TLE40A thru TLE80A (pg. 83) plus 3/8" drive FLE100A thru FLE180A (10 pcs) (E4 thru E18) on A265 Socket Rail and Clips.



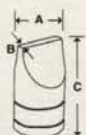
Double Square

#		A	B	C	D	E
1/4	F308	1/2	21/32	3/8	27/32	7/32
5/16	F310	9/16	21/32	3/8	27/32	1/4
3/8	F312	21/32	11/16	15/32	19/16	9/32
7/16	F314	25/32	11/16	17/32	1	5/16
1/2	F316	7/8	25/32	17/32	1	5/16
9/16	F318	1	29/32	19/32	1 1/8	7/16
5/8	F320	1 1/16	31/32	19/32	1 1/8	7/16

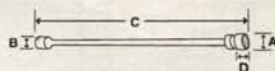
207FY Set. F308 thru F320 (7 pcs) (1/4" to 5/8") on A265 Socket Rail and Clips.

Drag Link

	A	B	C
GF22	11/16	7/64	1 1/4



FLXM804



Long Swivel Ball Extension Socket

mm		A	B	C	D
13	FLXM13	17.3	17.2	320.3	5.6
10	FLXM810	14.2	17.3	208	5.6
11	FLXM811	15.0	17.3	208	5.6
12	FLXM812	16.3	17.3	208	5.6
13	FLXM813	17.3	17.3	208	5.6

FLXM804 Metric Set. FLXM810 thru FLXM813 (4 pcs) (10 to 13mm) in vinyl pouch.



Universal TORX®

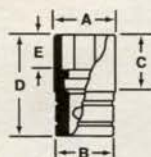
#		A	B	C	D
E8	FSE80	3/8	11/16	9/32	1 5/8
E10	FSE100	15/32	11/16	5/16	1 11/16
E12	FSE120	9/16	11/16	11/32	1 25/32
E14	FSE140	5/8	11/16	13/32	1 7/8
E16	FSE160	23/32	3/4	15/32	2 1/16



For WEATHERHEAD® Fittings

#		A	B
3/8	FD120	11/16	1 1/4
7/16	FD140	13/16	1 1/4
15/32	FD150	7/8	1 1/4
1/2	FD160	15/16	1 1/4
17/32	FD170	1	1 1/4
9/16	FD180	1 1/16	1 1/4
19/32	FD190	1 1/16	1 1/4
21/32	FD210	1 3/16	1 3/8
11/16	FD220	1 3/16	1 3/8
3/4	FD240	1 1/4	1 3/8
25/32	FD250	1 1/4	1 3/8

211FDY Set. FD120 thru FD250 (11 pcs) (3/8" to 25/32") on A267 Socket Rail and Clips.



British Standard — Shallow

British Bolt Size		A	B	C	D	E
.248 4BA	WF94	13/32	21/32	7/16	29/32	7/32
.281 3BA	WF95	7/16	21/32	7/16	29/32	9/32
.324 2BA	WF96	15/32	21/32	7/16	29/32	9/32
.338 3/16	WF96A	9/16	21/32	7/16	29/32	9/32
.365 1BA	WF97	9/16	11/16	7/16	29/32	9/32
.413 0BA	WF98	5/8	21/32	7/16	29/32	9/32
.443 1/4	WF99	5/8	11/16	7/16	29/32	9/32
.525 5/16	WF100	3/4	11/16	15/32	15/16	11/32
.600 3/8	WF101	13/16	3/4	17/32	1	3/8
.710 7/16	WF102	31/32	29/32	19/32	1 1/16	13/32
.820 1/2	WF103	1 3/32	1 1/32	11/16	1 5/32	15/32
.920 9/16	WF104	1 1/4	1 3/16	11/16	1 5/32	15/32

Not FLANK DRIVE®

Special Purpose Sockets 3/8" Drive

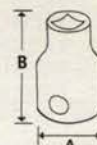
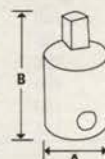
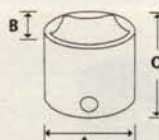
FLANK DRIVE®

Pentagon Socket (5-Point) Standard Length



	A	B	C
B2190	1 1/8	1/2	1 1/16

A specialty socket for servicing recessed 5-point nuts found on tamper-resistant Buffalo covers used by gas, electric, and some water companies to protect shutoff gates.



Pipe Plug



A



A

		A		A
3/16	PPM406A	1 1/8	—	—
1/4	PPM408A	1 1/8	PP408A	1
9/32	PPM409A	1 1/8	PP409A	1
5/16	PPM410A	1 1/8	PP410A	1
11/32	PPM411A	1 1/8	PP411A	1
3/8	PPM412A	1 1/8	PP412A	1

211PPPMY External/Internal Pipe Plug Socket Set: PPM406A thru PPM412A External Sockets plus PP408A thru PP412A Internal Sockets (11 pcs) (3/16" to 3/8") on A267 Socket Rail and Clips.

Pipe Plug



A



A



A

mm		A	B		A	B
6	PMM406A	16.4	31.0	PMP406A	17.2	25.8
8	PMM408A	17.2	31.0	PMP408A	17.2	28.6
10	PMM410A	17.2	28.4	PMP410A	18.8	25.4



No conductive path to user. No insulation to puncture, tear or wear through. Strong as steel. Every tool is individually tested to ensure protection up to 1000VAC and 1500VDC. Only Snap-on® non-conductive tools are UL Listed assuring the customer compliance to IEC60900. This means UL inspects and audits to ensure complete compliance with IEC60900. Lifetime warranty for material and workmanship. U.S. Patents 5,970,826 and 6,126,882 apply.



Composite (Insulating)

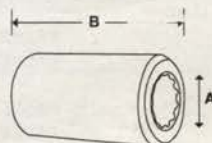


A

B

		A	B
3/8	CFDS12B	1	1 3/4
7/16	CFDS14B	1	1 3/4
1/2	CFDS16B	1 3/16	2
9/16	CFDS18B	1 3/16	2
5/8	CFDS20B	1 3/16	2
11/16	CFDS22B	1 3/8	2 1/4
3/4	CFDS24B	1 3/8	2 1/4

IHT208K Insulating Ratchet and Socket Set. CFDS12B thru CFDS24B Sockets (3/8" to 3/4") plus CFS949A Ratchet (8 pcs) in CO800 Kit Bag.



Composite (Insulating)



A

B

mm		A	B
10	CFDSM10A	25.1	44.9
12	CFDSM12A	29.6	51.2
13	CFDSM13A	29.6	51.2
14	CFDSM14A	29.6	51.2
15	CFDSM15A	29.6	51.2
16	CFDSM16A	33.5	57.4
17	CFDSM17A	33.5	57.4
18	CFDSM18A	33.5	57.4
19	CFDSM19A	33.5	57.4



IHT208K



WARNING

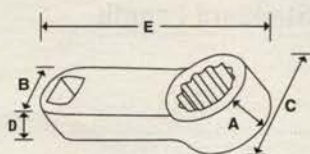
- Do not use chrome or industrial finish hand tools with power drivers.
- Disconnect power source whenever possible.
- Do not use damaged tool.
- Be properly trained.
- Misuse, shock, or broken tool can cause injury.
- Read additional safety precautions on pages M1 to M4.



3/8" Drive



FLANK DRIVE® Torque Adaptors



Standard

11	12	12	A	B	C	D	E
1/4	—	GFRDH081	.475	29/32	7/16	.750	2
5/16	FRDH101	GFRDH101	.475	7/16	1/4	.750	2
3/8	FRDH121	GFRDH121	.570	7/16	5/16	.750	2
7/16	FRDH141	GFRDH141	.655	7/16	11/32	.750	2
1/2	FRDH161	GFRDH161	.740	7/16	11/32	.750	2
9/16	FRDH181	GFRDH181	.825	7/16	3/8	.750	2

Aerospace Spec: AS954E

205FRDH Chrome Set. FRDH101 thru FRDH181 (5 pcs) (5/16" to 9/16").

206GFRDH Industrial Set. GFRDH081 thru GFRDH181 (6 pcs) (1/4" to 9/16").

Standard

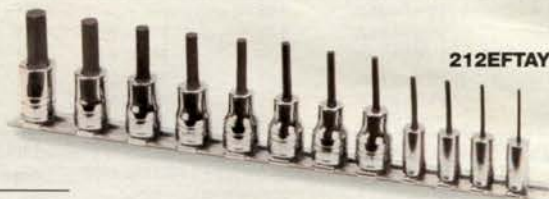
mm	12	A	B	C	D	E
10	FRDHM10	7.8	11.1	17.1	18.8	50.8
13	FRDHM13	7.8	11.1	21.0	18.8	50.8
15	FRDHM15	7.8	11.1	25.1	18.8	50.8
18	FRDHM18	13.3	11.1	22.4	18.8	50.8

Socket Drivers

208EFAY



212EFTAY



Hex

11	12	12	Length, inches	Fits These Screws: Cap	Set	Bit
Standard Length						
1/8	FA4E	GFA4E	2 1/16	—	1/4"	TMA4E2
9/64	FA4.5E	GFA4.5E	2 1/16	#8	—	TMA4.5E2
5/32	FA5E	GFA5E	2 1/16	#10	5/16"	FA5E2
3/16	FA6E	GFA6E	2 1/16	1/4"	3/8"	FA6E2
7/32	FA7E	GFA7E	2 1/16	—	7/16"	FA7E2
1/4	FA8E	GFA8E	2 1/16	5/16"	1/2"	FA8E2
5/16	FA10E	GFA10E	2 1/16	3/8"	5/8"	FA10E2
3/8	FA12E	GFA12E	2 3/32	7/16" and 1/2"	3/4"	FA12E2-5
Long						
3/16	FAL6E	—	3 1/8	1/4"	3/8"	FAL6E2
1/4	FAL8E	—	3 1/8	5/16"	1/2"	FAL8E2
Extra Long						
5/32	FA5LE	—	6 1/16	#10	5/16"	FA5LE2
3/16	FA6LE	—	6 1/8	1/4"	3/8"	FA6LE2
7/32	FA7LE	—	6 1/8	—	7/16"	FA7LE2
1/4	FA8LE	—	6 1/8	5/16"	1/2"	FA8LE2
5/16	FA10LE	—	6 1/16	3/8"	5/8"	FA10LE2
3/8	FA12LE	—	6 1/16	1/4"	3/4"	FA12LE2
Stubby						
7/32	FAXS7E	—	1 5/16	—	7/16"	FAXS7E2
1/4	FAXS8E	—	1 11/32	5/16"	1/2"	FAXS8E2
5/16	FAXS10E	—	1 13/32	3/8"	5/8"	FAXS10E2
3/8	FAXS12E	—	1 15/32	1/4"	3/4"	FAXS12E2



Standard Length Hex



Long Hex



Extra Long Hex



Stubby Hex



3/8" Drive Chrome Sets:

208EFAY Standard Length Set. FA4E thru FA12E (8 pcs) (1/8" to 3/8") on A265 Socket Rail and Clips.

206EFAL Extra Long Set. FA5LE thru FA12LE (6 pcs) (5/32" to 3/8").

3/8" Drive Industrial Sets:

208EGFAY Standard Length Set. GFA4E thru GFA12E (8 pcs) (1/8" to 3/8") on A265 Socket Rail and Clips.

Combination 1/4" and 3/8" Drive Chrome Sets:

212EFTAY Standard Length Set. Includes 1/4" drive TMA2E thru TMA3.5E Hex Drivers (pg. 84) plus 3/8" drive FA4E thru FA12E Hex Drivers (12 pcs) (1/16" to 3/8") on A269 Socket Rail and Clips.

208EFTAXSY Stubby Set. Includes 1/4" drive TMAXS4E thru TMAXS6E Stubby Drivers (pg. 84) plus 3/8" drive FAXS7E thru FAXS12E Stubby Drivers (8 pcs) (1/8" to 3/8") on A269 Socket Rail and Clips.

Socket Drivers 3/8" Drive

Ball Hex

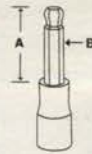
		A	B
Standard Length			
7/32	FAB7E	2 1/16	FAB7E2
1/4	FAB8E	2 1/16	FAB8E2
5/16	FAB10E	2 3/32	FAB10E2
3/8	FAB12E	2 3/32	FAB12E2
Long			
5/32	FABL5E	5 1/16	FABL5E2
3/16	FABL6E	5 1/16	FABL6E2
7/32	FABL7E	5 1/16	FABL7E2
1/4	FABL8E	5 1/16	FABL8E2
5/16	FABL10E	5 1/16	FABL10E2
3/8	FABL12E	5 1/16	FABL12E2

Combination 1/4" and 3/8" Drive Set:

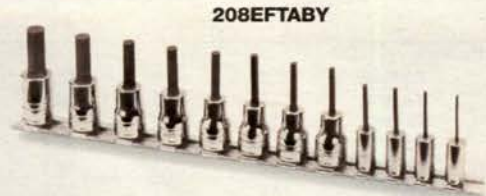
208EFTABY Standard Length Set. Includes 1/4" drive TMAB4E thru TMAB6E Ball Hex Drivers (pg. 84) plus 3/8" drive FAB7E thru FAB12E Ball Hex Drivers (8 pcs) (1/8" to 3/8") on A265 Socket Rail and Clips.

3/8" Drive Set:

206EFABL Long Set. FABL5E thru FABL12E (6 pcs) (5/32" to 3/8").



Standard Length



208EFTABY




Long Length




206EFABL

Flat Tip

		A	B
Standard Length			
1/4 x 1/32	F23E	3	F23E2
5/16 x 3/64	F25E	3	F25E2A
3/8 x 1/16	F31E	3 7/16	F31E2
Short			
1/4 x 1/32	F42E	1 13/16	F42E2
5/16 x 3/64	F52E	1 13/16	F52E2
3/8 x 1/16	F62E	1 27/32	F62E2




PHILLIPS®

		A	B
Standard Length			
#2	FP22E	2 1/16	FP22E2
#3	FP32E	2 9/16	FP32E2
#4	FP41E	1 21/32	FP41E2-5
Long			
#2	FP24E	4 1/32	FP24E2
#3	FP34E	4 1/32	FP34E2
#4	FP42E	2 9/16	FP42E2




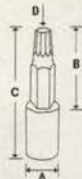
POZIDRIV® Standard Length

		A	B
#2	FPD22E	2 1/16	FPD22E2
#3	FPD32E	2	FPD32E2
#4	FPD41E	1 11/16	FPD41E2




Triple Square

		A	B	C	D
Standard Length					
6	FTSM6E	17.2	21.6	48.5	FTSM6E2-2
8	FTSM8E	17.2	31.1	58.0	FTSM8E2
10	FTSM8E	18.0	40.9	67.8	FTSM10E2
Long					
8	FTSM8LE	17.2	57.7	84.6	FTSM8LE2



Clutch Standard Length

		A	B
3/8	F29A	3/8	1 3/4
5/16	F30	1 9/64	1 3/4

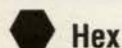


WARNING

- Do not use chrome or industrial finish hand tools with power drivers.
- Read additional safety precautions on pages M1 to M4.



3/8" Drive Socket Drivers



Hex

mm		A	B	C	D
Standard Length					
4	FAM4E	17.2	25.4	52.3	FAM4E2
5	FAM5E	17.2	25.7	52.6	FAM5E2
6	FAM6E	17.2	25.7	52.6	FAM6E2
7	FAM7E	17.2	25.7	52.6	FAM7E2
8	FAM8E	17.2	25.1	52.1	FAM8E2
9	FAM9E	18.0	25.7	52.6	FAM9E2
10	FAM10E	18.0	25.5	52.5	SAM10E2-5
11	FAM11E	20.4	38.9	69.9	FAM11E2
12	FAM12E	21.2	38.9	69.9	FAM12E2
13	FAM13E	22.8	38.9	69.9	FAM13E2
14	FAM14E	24.4	38.9	69.9	FAM14E2
Extra Long					
4	FAML4E	17.2	127	153.9	FAML4E2
5	FAML5E	17.2	127	153.9	FAML5E2
6	FAML6E	17.2	127	153.9	FAML6E2
7	FAML7E	17.2	127	153.9	FAML7E2
8	FAML8E	17.2	127	153.9	FAML8E2
10	FAML10E	18.0	126.5	153.4	FAML10E2
Stubby					
7	FAMXS7E	17.2	7.8	34.7	FAMXS7E2
8	FAMXS8E	17.2	8.8	35.7	FAMXS8E2
10	FAMXS10E	18.0	10.7	37.7	FAMXS10E2
Universal Stubby					
10	FUAM10E	59.7	—	10.3	FUAM10E3

3/8" Drive Metric Sets:

211EFAMY Metric Standard Length Set. FAM4E thru FAM14E (11 pcs) (4 to 14mm) on A269 Socket Rail and Clips.

207EFAMY Metric Standard Length Set. FAM4E thru FAM10E (7 pcs) (4 to 10mm) on A265 Socket Rail and Clips.

206EFAMY Metric Extra Long Set. FAML4E thru FAML10E (6 pcs) (4 to 10mm) on A265 Socket Rail and Clips.

Combination Metric 1/4" and 3/8" Drive Sets:

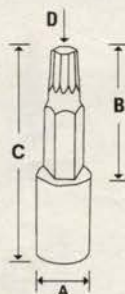
210EFTAMY Metric Standard Length Set. Includes 1/4" drive TMAM2E thru TMAM3E Standard Length Drivers (pg. 84) plus 3/8" drive FAM4E thru FAM10E Standard Length Drivers (10 pcs) (2 to 10mm) on A269 Socket Rail and Clips.

208EFTAMXSY Metric Stubby Set. Includes 1/4" drive TMAMXS3E thru TMAMXS6E Stubby Drivers (pg. 84) plus 3/8" drive FAMXS7E thru FAMXS10E Stubby Drivers (8 pcs) (3 to 10mm) on A265 Socket Rail and Clips.



Double Hex Standard length

mm		A	B	C	D
8	FADM8E	18	24.4	51.3	FADM8E2



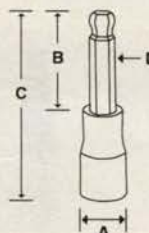
Standard

Stubby

Extra Long

Ball Hex

mm		A	B	C	D
Standard Length					
7	FABM7E	17.2	25.6	52.5	FABM7E2-2
8	FABM8E	17.2	25.6	52.5	FABM8E2
9	FABM9E	18.0	25.6	52.5	FABM9E2
10	FABM10E	18.0	25.6	52.5	FABM10E2
Long Length					
4	FABLM4E	17.2	101.6	129.3	FABLM4E2
5	FABLM5E	17.2	101.6	128.5	FABLM5E2
6	FABLM6E	17.2	101.6	128.5	FABLM6E2
8	FABLM8E	17.2	100.3	127.3	FABLM8E2
10	FABLM10E	18.0	101.3	128.3	FABLM10E2



Standard

Long

Combination Metric 1/4" and 3/8" Drive Set:

208EFTABMY Metric Standard Length Set. Includes 1/4" drive TMABM3E thru TMABM6E Standard Length Drivers (pg. 84) plus 3/8" drive FABM7E thru FABM10E Standard Length Drivers (8 pcs) (3 to 10mm) on A265 Socket Rail and Clips.

Metric 3/8" Drive Set:

205EFABLM Metric Long Set. FABLM4E thru FABLM10E (5 pcs) (4 to 10mm).



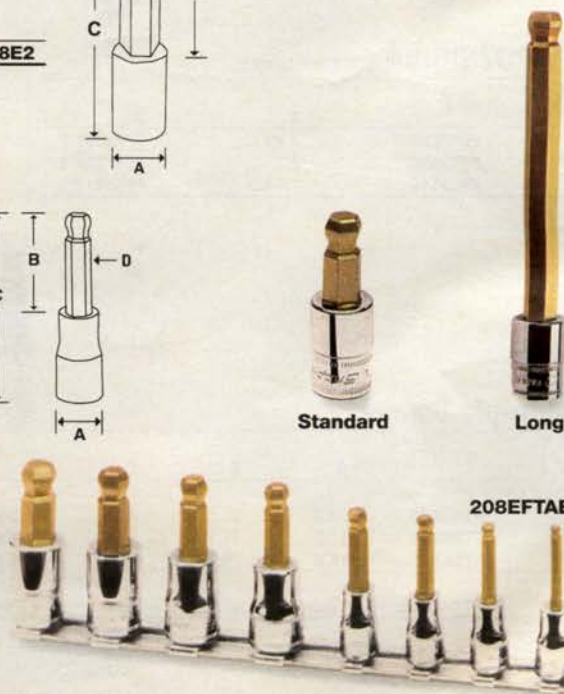
207EFAMY



210EFTAMY

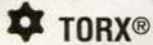
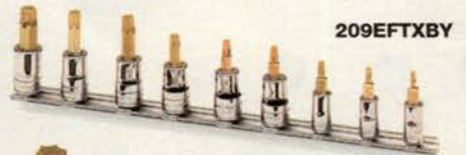
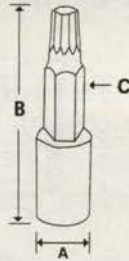


208EFTAMXSY



208EFTABMY

Socket Drivers 3/8" Drive



Hole drilled in the center of a tamper-resistant TORX® driver fits over the tamper-resistant pin in the fastener recess.

#	A			B	C
Standard Length					
T27	.195	FTX27E	GFTX27E	1 3/4	FTX27E2
T30	.216	FTX30E	GFTX30E	1 3/4	FTX30E2
T40	.260	FTX40E	GFTX40E	1 3/4	FTX40E2
T45	.306	FTX45E	GFTX45E	2 1/16	FTX45E2
T50	.346	FTX50E	GFTX50E	2 1/16	FTX50E2
T55	.440	FTX55E	GFTX55E	2 1/32	FTX55E2
T60	.520	FTX60E	—	2 5/16	FTX60E2
Long					
T27	.195	FTXL27E	—	4 1/4	FTXL27E2
T30	.216	FTXL30E	—	4 1/4	FTXL30E2
T40	.260	FTXL40E	—	4 1/4	FTXL40E2
T45	.306	FTXL45E	—	4 1/4	FTXL45E2
T50	.346	FTXL50E	—	2 7/8	FTXL50E2
Heavy Duty Removal					
T27	.195	FTXB27E	—	1 13/16	FTXB27E2
T30	.216	FTXB30E	—	1 13/16	FTXB30E2
T40	.260	FTXB40E	—	1 13/16	FTXB40E2
T45	.306	FTXB45E	—	2 1/16	FTXB45E2-5
T50	.346	FTXB50E	—	2 1/16	FTXB50E2
T55	.440	FTXB55E	—	2 1/8	FTXB55E2
Tamper Resistant					
T27	.195	FTXR27E	—	1 3/4	FTXR27E2
T30	.216	FTXR30E	—	1 3/4	FTXR30E2
T40	.260	FTXR40E	—	1 3/4	FTXR40E2
T45	.306	FTXR45E	—	2 1/16	FTXR45E2
T50	.346	FTXR50E	—	2 1/16	FTXR50E2



Standard



Tamper-Resistant



Heavy-Duty Removal



Long

Chrome TORX® Socket Driver Set:

207EFTXY Standard Length TORX® Set. FTX27E thru FTX55E plus FTX47E GM-Style Driver (7 pcs) (T27 to T55 plus GM-style T50) on A265 Socket Rail and Clips.

Industrial Finish TORX® Socket Driver Sets:

207EGFTX Standard Length TORX® Set. GFTX27E thru GFTX55E plus GFTX500E GM-Style Driver (7 pcs) (T27 to T55 plus GM-style T50).

Combination 1/4" and 3/8" Drive Chrome TORX® Socket Driver Set:

212EFTXY 1/4" and 3/8" Drive TORX® Set. Includes 1/4" drive TTX8E thru TTX25E TORX® Drivers plus 3/8" drive FTX27E thru FTX55E TORX® Drivers and FTX47E TORX® Driver (12 pcs) (T8 to T55) on A269 Socket Rail and Clips.

209EFTXBY Heavy-Duty Removal Driver TORX® Set. Includes 1/4" drive TTXB15E thru TTXB25E TORX® Drivers (pg. 85) plus 3/8" drive FTXB27E thru FTXB55E TORX® Drivers (9 pcs) (T15 to T55) on A265 Socket Rail and Clips.

Combination 1/4" and 3/8" Drive Industrial Finish TORX® Socket Driver Set:

212EGFTXY Standard Length TORX® Set. Includes 1/4" drive GTTX8E thru GTTX25E TORX® Drivers (pg. 85) plus 3/8" drive GFTX27E thru GFTX55E TORX® Drivers and GFTX500E TORX® Driver (12 pcs) (T8 to T55) on A269 Socket Rail and Clips.

Combination 1/4" and 3/8" Drive Tamper-Resistant Set:

210EFTXRY Tamper-Resistant TORX® Set. Includes 1/4" drive TTXR8E thru TTXR25E TORX® Drivers (pg. 85) plus 3/8" drive FTXR27E thru FTXR50E TORX® Drivers (10 pcs) (T8 to T55) on A265 Socket Rail and Clips.

Special Application TORX®

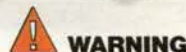
#	A			B	C	
T40	.260	FTXEL40E	—	Extra Long	7 1/2	FTXEL40E2
T45	.350	FTXEL45E	—	Extra Long	7 11/16	FTXEL45E2
T47	.310	FTX47E	—	GM Style	2 1/16	FTX47E2
T47	.310	—	GFTX500E	GM Style	2 1/16	FTX500E2

FTXEL40E. Applications include service on intake manifold bolts on Ford 5.0L engines with fuel injection, model years 1985 to 1990.

FTXEL45E. Quickly and easily access intake bolts on Cummins N14 diesel engines without removing air pump. Can also be used on older Cummins NH Big Cam 4 diesel engines.

FTX47E. For use on GM door strikers and seat belt bolts.

GFTX500E. For use on GM door strikers and seat belt bolts.



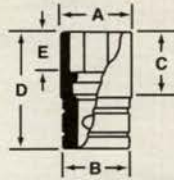
WARNING

- Do not use chrome or industrial finish hand tools with power drivers.
- Read additional safety precautions on pages M1 to M4.



3/8" Drive FLANK DRIVE® Power Sockets

Shallow



Shallow

11	6	12	A	B	C	D	E
5/16	PF100A	—	1/2	1 1/16	7/16	7/8	3/16
11/32	PF110A	—	17/32	1 1/16	7/16	7/8	3/16
3/8	PF120A	PFDH120A	9/16	1 1/16	7/16	7/8	3/16
7/16	PF140A	PFDH140A	21/32	3/4	7/16	19/16	9/32
1/2	PF160	—	3/4	3/4	7/16	19/16	9/32
9/16	PF180	—	13/16	13/16	7/16	31/32	11/32
11/16	PF220	—	31/32	31/32	9/16	1 1/32	3/8
3/4	PF240	—	1 1/16	1 1/16	9/16	1 3/32	13/32

ASME/ANSI: B107.2-1995

Shallow

mm	6	A	B	C	D	E
8	PFM8A	12.8	17.2	11.1	23.0	6.4
10	PFM10A	14.4	17.2	11.1	23.0	7.1
11	PFM11A	15.6	17.2	11.1	23.0	7.1
12	PFM12A	17.0	17.2	11.9	23.8	8.1
13	PFM13	18.0	18.0	11.6	24.6	8.1
15	PFM15	20.3	20.3	13.7	26.2	9.1
18	PFM18	24.3	24.3	15.7	28.6	10.9
19	PFM19	25.1	25.1	17.1	30.1	11.9

Deep



Deep

11	6	A	B	C	D	E
3/8	SPF120A	9/16	1 1/16	1 1/16	2 1/8	9/32
7/16	SPF140A	21/32	3/4	1 1/16	2 1/8	11/32
1/2	SPF160	3/4	3/4	1 1/16	2 1/8	3/8
9/16	SPF180	13/16	13/16	1 1/16	2 1/8	7/16

ASME/ANSI: B107.2-1995

Deep

mm	6	A	B	C	D	E
8	SPFM8A	12.8	17.2	33.0	54.0	5.6
10	SPFM10A	14.4	17.2	38.1	53.8	5.6
11	SPFM11A	15.6	17.2	38.1	53.8	6.4
12	SPFM12A	17.0	17.2	38.1	53.8	6.9
13	SPFM13	18.1	18.1	38.1	53.8	7.6
15	SPFM15	20.5	20.5	43.2	60.5	9.1
17	SPFM17	23.4	23.4	48.3	66.8	10.4
18	SPFM18	24.3	24.3	48.3	66.8	10.9
19	SPFM19	25.1	25.1	48.3	66.8	12.2

Magnetic



Shallow Magnetic

11	6	A	B	D	E
5/16	MFIM101	15/32	1 1/16	1 1/16	5/32
3/8	MFIM121	17/32	1 1/16	1 1/16	1/8
7/16	MFIM141	5/8	1 1/16	1 1/16	5/32
1/2	MFIM161	25/32	25/32	1 1/16	5/32
9/16	MFIM181	7/8	7/8	1 1/16	5/32

205MFIM 6-Point Shallow Set. MFIM101 thru MFIM181 (5 pcs)
(5/16" to 9/16").

Shallow Magnetic

mm	6	A	B	D	E
8	MFIMM8	12.8	17.2	28.6	2.4
10	MFIMM10A	15.1	17.2	29.1	4.7
11	MFIMM11	16.7	18.9	28.6	3.5
12	MFIMM12	18.1	19.1	28.6	3.7
13	MFIMM13	19.4	19.4	28.6	3.9
15	MFIMM15	21.8	21.8	28.6	3.9

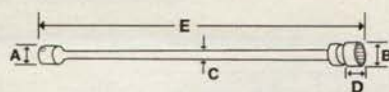
206MFIMM Metric 6-Point Shallow Set. MFIMM8 thru MFIMM15
(6 pcs) (8 to 15mm).

Deep Magnetic-Spring Loaded

mm	6	A	B	D	E
8	SMFIMM8A	12.8	17.2	50.8	7.1
12	SMFIMM12A	18.1	19.1	50.8	7.1
13	SMFIMM13B	19.4	19.4	50.8	7.6



FLANK DRIVE® Power Sockets



Swivel Ball Extension Socket

Size	Part Number	A	B	C	D	E
1/2"	PFSX916	1 1/16"	2 3/32"	1 3/32"	5/16"	9 5/8"

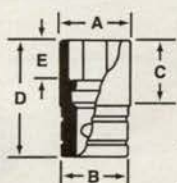
Swivel Ball Extension Sockets

mm	Part Number	A	B	C	D	E
10	PFSXM910	17.2	14.4	10.0	5.6	243.4
12	PFSXM912	17.2	17.0	10.0	6.8	244.6
13	PFSXM913	17.2	18.4	12.4	7.6	246.0
14	PFSXM914	17.2	19.8	12.4	9.1	248.0

Surface Drive Sockets

Surface drive sockets are used in the industrial market for assembly line work. The lead-in chamfer and special design of these sockets will engage with a

fastener while rotating on a power nut runner. US Patent 4,512,220 applies to both shallow and deep series below.



Shallow

Size	Part Number	A	B	C	D	E
1/2"	DF16	3/4"	3/4"	1 9/32"	1 1/16"	9/32"
9/16"	DF18	13/16"	13/16"	1 9/32"	1 3/32"	5/16"



Shallow

mm	Part Number	A	B	C	D	E
10	DFM10	14.4	17.2	14.7	26.2	7.1
13	DFM13	19.7	19.7	15.1	27.0	7.4



Deep

Size	Part Number	A	B	C	D	E
3/8"	DFS12	9/16"	1 1/16"	1 11/16"	2 1/8"	9/32"
7/16"	DFS14	2 1/32"	1 1/16"	1 21/32"	2 1/8"	11/32"
1/2"	DFS16	3/4"	3/4"	1 7/16"	2 1/8"	3/8"
9/16"	DFS18	13/16"	13/16"	1 11/16"	2 3/8"	13/32"



Deep

mm	Part Number	A	B	C	D	E
10	DFSM10	14.5	17.2	42.5	54.0	8.4
13	DFSM13	19.7	19.7	36.8	54.0	10.4
15	DFSM15	21.3	21.3	36.8	60.3	10.4

Power Socket Drivers



Hex

Size	Part Number	C	Cap Screws	Set Screws, inches	D
1/8"	PFA4E	2 1/16"	—	1/4"	TMA4E2
9/64"	PFA4.5E	2 1/16"	#8	—	TMA4.5E2
5/32"	PFA5E	2 1/16"	#10	5/16"	FA5E2
3/16"	PFA6E	2 1/16"	1/4"	3/8"	FA6E2
7/32"	PFA7E	2 1/16"	—	5/16"	FA7E2
1/4"	PFA8E	2 1/16"	7/16"	1/2"	FA8E2
5/16"	PFA10E	2 1/16"	3/8"	9/8"	FA10E2
3/8"	PFA12E	2 1/16"	1/4 & 1/2"	3/4"	FA12E2-5

208EPFAY Hex Set. PFA4E thru PFA12E (8 pcs) (1/8" to 3/8") on A265 Socket Rail and Clips.



Hex

mm	Part Number	A	B	C	D
4	PFAM4E	17.2	25.3	52.3	FAM4E2
5	PFAM5E	17.2	25.7	52.6	FAM5E2
6	PFAM6E	17.2	25.7	52.6	FAM6E2
7	PFAM7E	17.2	25.6	52.5	FAM7E2
8	PFAM8E	17.2	25.2	52.1	FAM8E2
9	PFAM9E	18.0	25.6	52.5	FAM9E2
10	PFAM10E	18.0	25.5	52.5	SAM10E2-5

207EPFAMY Hex Set. PFAM4E thru PFAM10E (7 pcs) (4 to 10mm) on A265 Socket Rail and Clips.

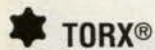


WARNING

- Do not use chrome or industrial finish hand tools with power drivers.
- Do not hold swivel joint tools during use.
- Read additional safety precautions on pages M1 to M4.



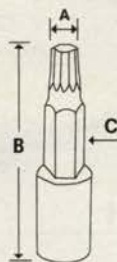
3/8" Drive



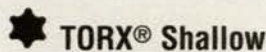
#	A		B	C
T27	.195	PFTX27E	1 3/4	FTX27E2
T30	.216	PFTX30E	1 3/4	FTX30E2
T40	.260	PFTX40E	1 3/4	FTX40E2

210EPTXY TORX® Driver Set. Includes 1/4" drive PTX15E thru PTX25E Drivers (pg. 86), 3/8" drive PFTX27E thru PFTX40E Drivers plus 1/2" drive PSTX45E, PSTX50E, PSTX55E, and PSTX500E Drivers (pg. 128) (10 pcs) (T15 to T55) on A269 Socket Rail and Clips.

Power Socket Drivers

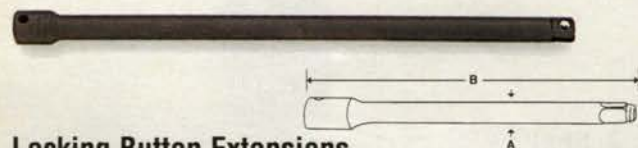


Power Sockets For TORX® Fasteners



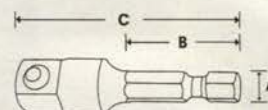
#	6	A	B	C	D	E
E7	PFLE070	3/8	11/16	17/32	1 1/32	1/4
E8	PFLE080	13/16	11/16	17/32	1 1/32	9/32

Power Accessories



Locking Button Extensions

	A	B
PF3	1/2	3
PF6	1/2	6
PF11A	1/2	11



Hex-to-Square Adaptor

	A	B	C
A3042	1/4	1	2

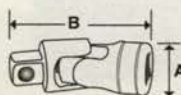
Adaptors

	A	B	C	D
PA4A	3/8	1/2	15/16	1 15/32
PA2A	1/2	3/8	3/4	1 5/16



Universal Joint

	A	B
PFU8A	3/4	1 31/32



FLANK DRIVE® Impact Sockets

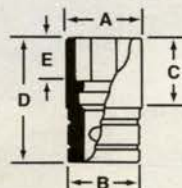
Shallow

11	6	12	A	B	C	D	E
5/16	IMFL100	—	1/2	11/16	3/8	7/8	1/4
3/8	IMFL120	IMDFL120	9/16	11/16	7/16	7/8	3/16
7/16	IMFL140	IMDFL140	21/32	3/4	7/16	15/16	9/32
1/2	IMFL160	IMDFL160	3/4	3/4	7/16	15/16	9/32
9/16	IMFL180	IMDFL180	13/16	13/16	7/16	15/16	9/32
5/8	IMFL200	IMDFL200	29/32	29/32	7/16	15/16	9/32
11/16	IMFL220	IMDFL220	31/32	31/32	9/16	1 1/32	3/8
3/4	IMFL240	IMDFL240	1 1/16	1 1/16	9/16	1 3/32	13/32
13/16	IMFL260	—	1 1/8	1 1/8	11/16	1 3/16	1/2
7/8	IMFL280	—	1 3/16	1 3/16	3/4	1 9/32	1/2
15/16	IMFL300	—	1 9/32	1 9/32	13/16	1 5/16	17/32
1	IMFL320	—	1 11/32	1 9/32	13/16	1 5/16	9/16

ASME/ANSI: B107.2-1995

212IMFYLM 6-Point Shallow Set. IMFL100 thru IMFL320 (12 pcs) (5/16" to 1") on A267 Socket Rail and Clips.

207IMDYLM 12-Point Shallow Set. IMDFL120 thru IMDFL240 (7 pcs) (3/8" to 3/4") on A265 Socket Rail and Clips.



FLANK DRIVE® Impact Sockets 3/8" Drive

Shallow (Dimensions in Parentheses apply to 12-point sockets only.)

mm	6	12	A	B	C	D	E
8	IMFML8	IMDFML8	12.8	17.2	11.1	23	6.4
9	IMFML9	—	14.0	17.2	11.0	23	7.1
10	IMFML10	IMDFML10	15.1	17.2	11.0	23	7.1
11	IMFML11	IMDFML11	16.7	18.8	11.6	23.8	7.1
12	IMFML12	IMDFML12	18.0	18.0	11.6	23.8	7.1
13	IMFML13	IMDFML13	18.8 (19.4)	18.8 (19.4)	12.4 (10.9)	24.6 (23.8)	7.4 (7.6)
14	IMFML14	IMDFML14	20.4	20.4	13.5	27.0	9.1
15	IMFML15	IMDFML15	21.2	21.2	13.5	27.0	9.1
16	IMFML16	IMDFML16	22.7	22.7	14.1	27.8	10.4
17	IMFML17	IMDFML17	24.3	24.3	14.4	28.2	10.2
18	IMFML18	IMDFML18	25.1	25.1	14.3	29.0	10.9
19	IMFML19	IMDFML19	26.7	26.7	15.6	30.6	11.7
20	IMFML20	IMDFML20	28.3	28.3	16.5	30.9	12.2
21	IMFML21	IMDFML21	28.8 (29.1)	28.8 (29.1)	17.5	29.5 (32.1)	12.2 (12.4)
22	IMFML22	IMDFML22	29.9	29.9	18.3	32.9	13
23	IMFML23	—	31.5	31.5	19.3	31.5	13.2
24	IMFML24	—	32.6	32.6	21.1	33	14.5

6-Point Sets:

217IMFMYLM 6-Point Shallow Set. IMFML8 thru IMFML24 (17 pcs) (8 to 24mm) on A270 Socket Rail and Clip.

214IMFMYLM 6-Point Shallow Set. IMFML8 thru IMFML19 plus IMFML21 and IMFML24 (14 pcs) (8 to 24mm) on A267 Socket Rail and Clips.

12-Point Sets:

214IMDFMYLM 12-Point Shallow Set. IMDFML8 thru IMDFML22 (14 pcs) (8 to 22mm) on A267 Socket Rail and Clips.

207IMDFMYLM 12-Point Shallow Set. IMDFML10 thru IMDFML18 (except IMDFML11 and IMDFML16) (7 pcs) (10 to 18mm) on A265 Socket Rail and Clips.



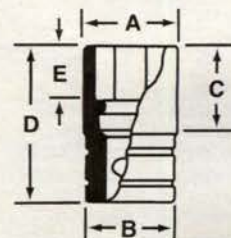
214IMFMYLM



Semi-Deep

mm	6	A	B	C	D	E
9/16	IMFSL10	1/2	1 1/16	1 5/32	1 5/8	1/4
3/8	IMFSL12	9/16	1 1/16	1 5/32	1 5/8	9/32
7/16	IMFSL14	21/32	3/4	1 5/32	1 5/8	11/32
1/2	IMFSL16	3/4	3/4	1 5/32	1 5/8	13/32
9/16	IMFSL18	13/16	13/16	1 5/32	1 5/8	13/32
5/8	IMFSL20	29/32	29/32	1 5/32	1 5/8	13/32
11/16	IMFSL22	31/32	31/32	1 5/32	1 5/8	7/16
3/4	IMFSL24	1 1/16	1 1/16	1 5/32	1 5/8	15/32
13/16	IMFSL26	1 1/8	1 1/8	1 5/32	1 5/8	1/2
7/8	IMFSL28	1 3/16	1 3/16	1 5/32	1 5/8	17/32

210IMFSYLM 6-Point Semi-Deep Set. IMFSL10 thru IMFSL28 (10 pcs) (5/16" to 7/8") on A267 Socket Rail and Clips.



WARNING

- Do not use chrome or industrial finish hand tools with power drivers.
- Read additional safety precautions on pages M1 to M4.

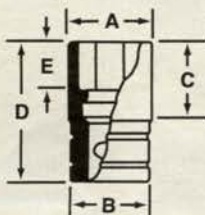


3/8" Drive *FLANK DRIVE*® Impact Sockets

Semi-Deep

mm	6	A	B	C	D	E
8	IMFMSL8	12.8	17.2	29.3	41.3	6.4
9	IMFMSL9	14.0	17.2	29.3	41.3	7.1
10	IMFMSL10	15.1	17.2	29.3	41.3	9.7
11	IMFMSL11	17.2	17.2	29.3	41.3	9.7
12	IMFMSL12	18.0	18.0	29.3	41.3	9.7
13	IMFMSL13	19.6	19.6	29.3	41.3	10.4
14	IMFMSL14	20.4	20.4	29.3	41.3	10.4
15	IMFMSL15	21.2	21.2	29.3	41.3	10.4
16	IMFMSL16	22.7	22.7	29.3	41.3	10.4
17	IMFMSL17	24.3	24.3	29.3	41.3	11.2
18	IMFMSL18	25.1	25.1	29.3	41.3	11.2
19	IMFMSL19	26.7	26.7	29.3	41.3	11.7

212IMFMSYLM Metric 6-Point Semi-Deep Set. IMFMSL8 thru IMFMSL19 (12 pcs)
(8 to 19mm) on A267 Socket Rail and Clips.



Deep

mm	6	A	B	C	D	E
5/16	SIMFL100	1/2	1 1/16	1 1/2	2 1/8	3/16
3/8	SIMFL120	9/16	1 1/16	1 1/2	2 1/8	9/32
7/16	SIMFL140	2 1/32	3/4	1 1/2	2 1/8	9/16
1/2	SIMFL160	3/4	3/4	1 1/2	2 1/8	3/8
9/16	SIMFL180	13/16	13/16	1 1/2	2 3/8	7/16
5/8	SIMFL200	29/32	29/32	1 1/2	2 3/8	7/16
11/16	SIMFL220	3 1/32	3 1/32	1 1/2	2 5/8	1/2
3/4	SIMFL240	1 1/16	1 1/16	1 1/2	2 5/8	9/16
13/16	SIMFL260	1 1/8	1 1/8	2 1/16	2 3/4	9/16
7/8	SIMFL280	1 3/16	1 3/16	2 1/16	2 3/4	9/16
15/16	SIMFL300	1 9/32	1 9/32	2 1/32	2 3/4	9/16
1	SIMFL320	1 11/32	1 11/32	2 3/16	2 3/4	5/8

ASME/ANSI B107.2-1995

212SIMFYLM 6-Point Deep Set. SIMFL100 thru SIMFL320 (12 pcs)
(5/16" to 1") on A267 Socket Rail and Clips.

207SIMFYLM 6-Point Deep Set. SIMFL120 thru SIMFL240 (7 pcs)
(3/8" to 3/4") on A265 Socket Rail and Clips.

Deep

mm	6	12	A	B	C	D	E
8	SIMFML8	SIMDFML8	12.8	17.2	38.1	54.0	6.4
9	SIMFML9	SIMDFML9	14.0	17.2	38.1	54.0	7.1
10	SIMFML10	SIMDFML10	15.1	17.2	38.1	54.0	9.7
11	SIMFML11	SIMDFML11	17.2	17.2	38.1	54.0	9.7
12	SIMFML12	SIMDFML12	18.0	18.0	38.1	54.0	9.7
13	SIMFML13	SIMDFML13	19.6	19.6	38.1	54.0	10.4
14	SIMFML14	SIMDFML14	20.4	20.4	42.7	60.3	10.4
15	SIMFML15	SIMDFML15	21.2	21.2	42.7	60.3	10.4
16	SIMFML16	SIMDFML16	22.7	22.7	42.7	60.3	10.4
17	SIMFML17	SIMDFML17	24.3	24.3	47.0	66.7	11.2
18	SIMFML18	SIMDFML18	25.1	25.1	47.0	66.7	11.2
19	SIMFML19	SIMDFML19	26.7	26.7	47.0	66.7	14.2
20	SIMFML20	—	28.3	28.3	47.0	66.7	12.2
21	SIMFML21	SIMDFML21	28.9	28.9	47.0	66.7	12.4
22	SIMFML22	—	29.9	29.9	51.6	73.0	13.0
23	SIMFML23	—	31.5	31.5	51.6	73.0	13.0
24	SIMFML24	SIMDFML24	33.0	33.0	58.2	73.0	14.7

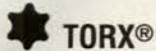
217SIMFYLM Metric 6-Point Deep Set. SIMFML8 thru SIMFML24 (17 pcs)
(8 to 24mm) on A270 Socket Rail and Clips.

214SIMFYLM Metric 6-Point Deep Set. SIMFML8 thru SIMFML19 plus
SIMFML21 and SIMFML24 (14 pcs) (8 to 24mm) on A267 Socket Rail and Clips.

214SIMDFMYLM Metric 12-Point Deep Set. SIMDFML8 thru SIMDFML19 plus
SIMDFML21 and SIMDFML24 (14 pcs) (8 to 24mm) on A267 Socket Rail and Clips.

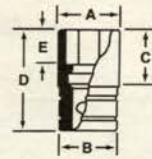


FLANK DRIVE® Impact Sockets 3/8" Drive



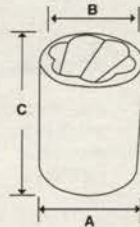
#	6	A	B	C	D	E
E10	IMFLE100A	1/2	1 1/16	1 1/16	1 5/32	5/16
E12	IMFLE120A	19/32	1 1/16	1 1/16	1 5/32	1 1/32
E14	IMFLE140A	1 1/16	1 1/16	1 1/16	1 5/32	13/32
E16	IMFLE160A	3/4	3/4	13/16	1 1/4	7/16
E18	IMFLE180A	27/32	27/32	15/16	1 5/16	1/2

210IMFLEYA TORX® Set. Includes 1/4" drive IMTLE40A thru IMTLE80A Sockets (pg. 87) plus 3/8" drive IMFLE100A thru IMFLE180A Sockets (10 pcs) (E4 to E18) on A265 Socket Rail and Clips.



Impact Sockets / Special Purpose

Quickly and easily remove damaged or rounded nuts and bolts. Simply place socket on fastener and turn with 3/8" drive handle or impact gun. Grip on fastener tightens as more torque is applied. No hammering required to install socket over fastener. Use on fasteners up to 3/4" (19mm). Applications include oil pan drain plugs, exhaust manifold nuts, studs, pipe nipples and corroded marine fasteners.



209TFSMYA



Shallow Twist

II	mm	6	A	B	C
3/8		TFSY121A	1 1/16 (17.5)	9/16 (14.3)	1 1/4 (31.8)
7/16 (11)		TFSY141A	1 1/16 (17.5)	2 1/32 (16.7)	1 1/4 (31.8)
1/2		TFSY161A	3/4 (19.1)	3/4 (19.1)	1 1/4 (31.8)
9/16		TFSY181A	13/16 (20.6)	13/16 (20.6)	1 1/4 (31.8)
5/8 (16)		TFSY201A	29/32 (23.0)	29/32 (23.0)	1 1/4 (31.8)
1 1/16		TFSY221A	3 1/32 (24.6)	3 1/32 (24.6)	1 3/8 (35.0)
3/4 (19)		TFSY241A	1 1/16 (27.0)	1 1/16 (27.0)	1 3/8 (35.0)
10		TFSY10A	1 1/16 (17.5)	19/32 (15.1)	1 1/4 (31.8)
12		TFSY12A	1 1/16 (17.5)	1 1/16 (17.5)	1 1/4 (31.8)
13		TFSY13A	3/4 (19.1)	3/4 (19.1)	1 1/4 (31.8)
14		TFSY14A	13/16 (20.6)	13/16 (20.6)	1 1/4 (31.8)
15		TFSY15A	13/16 (20.6)	27/32 (21.4)	1 1/4 (31.8)
17		TFSY17A	3 1/32 (24.6)	3 1/32 (24.6)	1 3/8 (35.0)

213TFSYA SAE/Metric Twist Shallow Set. Includes all TFSY Series shallow sockets (13 pcs) (3/8" to 3/4", 10 to 19mm) in a plastic tray.

209TFSMYA Metric Twist Shallow Set. TFSY10A thru TFSY17A plus TFSY141A, TFSY201A and TFSY241A (9 pcs) (10 to 19mm) in a plastic tray.

Deep Twist

II	mm	6	A	B	C
3/8		TSFSY121A	1 1/16 (17.5)	9/16 (14.3)	2 1/8 (54.0)
7/16 (11)		TSFSY141A	1 1/16 (17.5)	2 1/32 (16.7)	2 1/8 (54.0)
1/2		TSFSY161A	3/4 (19.1)	3/4 (19.1)	2 1/8 (54.0)
9/16		TSFSY181A	13/16 (20.6)	13/16 (20.6)	2 3/8 (60.3)
5/8 (16)		TSFSY201A	29/32 (23)	29/32 (23)	2 3/8 (60.3)
1 1/16		TSFSY221A	3 1/32 (24.6)	3 1/32 (24.6)	2 5/8 (66.7)
3/4 (19)		TSFSY241A	1 1/16 (27.0)	1 1/16 (27.0)	2 5/8 (66.7)
10		TSFSY10A	1 1/16 (17.5)	19/32 (15.1)	2 1/8 (54.0)
12		TSFSY12A	1 1/16 (17.5)	1 1/16 (17.5)	2 1/8 (54.0)
13		TSFSY13A	3/4 (19.1)	3/4 (19.1)	2 1/8 (54.0)
14		TSFSY14A	13/16 (20.6)	13/16 (20.6)	2 3/8 (60.3)
15		TSFSY15A	13/16 (20.6)	27/32 (21.4)	2 3/8 (60.3)
17		TSFSY17A	3 1/32 (24.6)	3 1/32 (24.6)	2 5/8 (66.7)

213TSFSYA SAE/Metric Twist Deep Set. Includes all TSFSY Series deep sockets (13 pcs) (3/8" to 3/4", 10mm to 19mm) in a plastic tray.

209TSFSMYA Metric Twist Deep Set. TSFSY10A thru TSFSY17A plus TSFSY141A, TSFSY201A and TSFSY241A (9 pcs) (10 to 19mm) in a plastic tray.



213TSFSYA





WARNING

• Read additional safety precautions on pages M1 to M4.

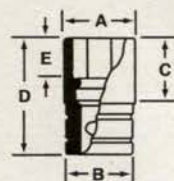


3/8" Drive *FLANK DRIVE*® Impact Swivel Sockets

Shallow

		A	B	C	D
3/8	IPF12B	9/16	7/8	1 31/32	1/4
7/16	IPF14B	21/32	7/8	2 1/16	9/32
1/2	IPF16B	3/4	7/8	2 1/8	5/16
9/16	IPF18B	13/16	7/8	2 3/16	5/16
5/8	IPF20B	7/8	7/8	2 1/4	11/32
11/16	IPF22B	31/32	29/32	2 17/32	13/32
3/4	IPF24B	1 1/16	29/32	2 19/32	7/16




207IPFY 6-Point Shallow Set. IPF12B thru IPF24B (7 pcs) (3/8" to 3/4") on A265 Socket Rail and Clips.



207IPFY



Shallow

			A	B	C	D
8	IPFM8B	—	13.2	22.2	49.8	6.4
9	IPFM9B	—	14.0	22.2	49.8	6.4
10	IPFM10B	IPDFM10	15.4	22.2	50.8	7.1
11	IPFM11B	—	16.7	22.2	52.1	7.1
12	IPFM12B	IPDFM12	18.1	22.2	53.1	7.1
13	IPFM13B	IPDFM13	18.9	22.2	54.1	7.9
14	IPFM14B	IPDFM14	20.5	22.2	55.4	7.9
15	IPFM15B	IPDFM15	21.2	22.2	56.4	7.9
16	IPFM16B	—	22.6	22.2	57.4	8.6
17	IPFM17B	—	23.4	23.0	62.2	8.6
18	IPFM18B	—	25.1	23.0	64.0	9.7
19	IPFM19B	—	26.4	23.0	65.0	10.4
22	IPFM22B	—	29.9	23.0	68.1	13.0

213IPFMY Metric 6-Point Shallow Set. IPFM8B thru IPFM22B (13 pcs) (8 to 22mm) on A267 Socket Rail and Clips.

211IPFMY Metric 6-Point Shallow Set. IPFM9B thru IPFM19B (11 pcs) (9 to 19mm) on A267 Socket Rail and Clips.



207IPFMY Metric 6-Point Shallow Set. IPFM10B thru IPFM18B (except IPFM11B and IPFM16B) (7 pcs) (10 to 18mm) on A265 Socket Rail and Clips.

205IPDFMY Metric 12-Point Shallow Set. IPDFM10 thru IPDFM15 (5 pcs) (10 to 15mm) on A265 Socket Rail and Clips.

207IPFMY



Semi-Deep

		A	B	C	D
8	IPSFM8	12.8	22.2	62.5	6.4
9	IPSFM9	14.0	22.2	63.0	7.1
10	IPSFM10	15.1	22.2	64.1	9.7
11	IPSFM11	17.2	22.2	65.6	9.7
12	IPSFM12	18.0	23.0	70.9	9.7
13	IPSFM13	19.6	23.0	71.9	10.4
14	IPSFM14	20.4	23.0	72.9	10.4
15	IPSFM15	22.0	23.0	74.4	10.4
16	IPSFM16	22.7	23.0	74.9	10.4
17	IPSFM17	24.3	23.0	76.0	11.2
18	IPSFM18	25.1	23.0	77.5	11.2
19	IPSFM19	26.7	23.0	79.0	14.2
22	IPSFM22	29.9	23.0	82.1	14.2
24	IPSFM24	32.1	23.0	84.8	14.7

214IPSFMY 6-Point Semi-Deep Set. IPSFM8 thru IPSFM24 (14 pcs) (8 to 24mm) on A270 Socket Rail and Clips.

207IPSFMY 6-Point Semi-Deep Set. IPSFM10 thru IPSFM18 (except IPSFM11 and IPSFM16) (7 pcs) (10 to 18mm) on A265 Socket Rail and Clips.



207IPSFMY



FLANK DRIVE® Impact Swivel Sockets 3/8" Drive



205IPLFY



209IPLFMY



Deep

II	6	A	B	C	D
3/8	IPLF12	9/16	7/8	2 15/16	1/4
7/16	IPLF14	21/32	7/8	3 1/2	9/32
1/2	IPLF16	3/4	7/8	3 1/8	5/16
9/16	IPLF18	13/16	7/8	3 3/16	5/16
5/8	IPLF20	7/8	7/8	3 1/4	11/32

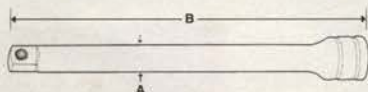
205IPLFY 6-Point Deep Set. IPLF12 thru IPLF20 (5 pcs) (3/8" to 5/8") on A265 Socket Rail and Clips.

Deep

mm	6	A	B	C	D
8	IPLFM8A	15.8	24.9	70.1	9.1
10	IPLFM10A	15.8	24.9	70.1	9.1
12	IPLFM12A	16.6	24.9	70.1	9.7
13	IPLFM13	18.8	22.2	79.5	10.4
14	IPLFM14	20.4	22.2	81.0	10.4
15	IPLFM15	21.2	22.2	82.6	10.4
17	IPLFM17	23.4	23.0	88.3	10.2
18	IPLFM18	25.1	23.0	90.1	10.7
19	IPLFM19	26.7	23.0	91.2	14.2

209IPLFMY Metric Impact Swivel 6-Point Deep Set. IPLFM8 thru IPLFM19 (9 pcs) (8 to 19mm) on A269 Socket Rail and Clips.

Impact Accessories



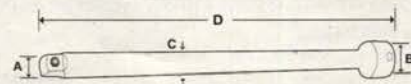
Extensions

Snap Ring Retention Device

	A	B
IMX11	1/2	1 3/4
IMX31	1/2	3
IMX61	1/2	6
IMX111	1/2	11

204IMXA Impact Extension Set.

IMX11 thru IMX111 (4 pcs) (1 3/4" to 11") in a plastic tray.

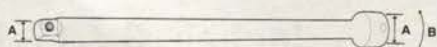


Extension Adaptor

Snap Ring Retention

	A	B	C	D
IMXA42	3/8	1/2	1/2	4

TSKT4



Torque Limiting Extensions

	A	B
TSKT430	3/8	30
TSKT440	3/8	40
TSKT450	3/8	50
TSKT460	3/8	60

TSKT4 Torque Limiting Extension Set.

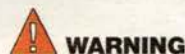
Ideal for repeated assembly torque and engine repair. Limits the amount of torque transfer from the impact wrench to the fastener. Shaft will flex with each blow from the impact wrench, alerting the user that the specified torque is achieved. Set includes 4 extensions in a plastic case.



Universal Joints

	A	B
IPF80A*	1	2 1/8
IPF800A*	1	2 1/8

* Lock Button Retention Device.
* Friction Ball Retention Device.



WARNING

- Do not hold swivel joint tools during use.
- Read additional safety precautions on pages M1 to M4.

1/2" Drive General Service Sets

Inches, 6-Point

317MSPC



317MSPC Chrome Set in a Plastic Tray

17 pieces include:

6-Point Shallow Sockets:

TW121A	3/8"	TW221	1 1/16"
TW141A	7/16"	TW241	3/4"
TW161A	1/2"	TW261	13/16"
TW181A	9/16"	TW281	7/8"
TW201	5/8"	TW301	15/16"

also includes:

S936	Sealed Ratchet
SN18B	18" Breaker Bar
SXK5	5" Extension
SXK11	11" Extension

321GTWB 6-Point Industrial Finish General Service Set in KRA280 Metal Box

21 pieces include:

6-Point Shallow Sockets:

GTW121A	3/8"	GTW261	13/16"
GTW141A	7/16"	GTW281	7/8"
GTW161A	1/2"	GTW301	15/16"
GTW181A	9/16"	GTW321	1"
GTW201	5/8"	GTW341	1 1/16"
GTW221	11/16"	GTW361	1 1/8"
GTW241	3/4"	GTW401	1 1/4"

also includes:

KB4	18 3/4" Speeder
GU8	2 1/16" Universal Joint
GS936	Sealed Ratchet
SN18B	18" Breaker Bar
GSXK3	3 1/2" Extension
GSXK5	5" Extension
GSXK11	11" Extension

321GTWB



Inches, 12-Point

317MPC



317MPC Chrome General Service Set in a Plastic Tray

17 pieces include:

12-Point Shallow Sockets:

SW121A	3/8"	SW201	5/8"	SW281	7/8"
SW141A	7/16"	SW221	11/16"	SW301	15/16"
SW161A	1/2"	SW241	3/4"	SW321	1"
SW181A	9/16"	SW261	13/16"	SW341	1 1/16"
				SW361	1 1/8"

also includes:

S936	Sealed Ratchet
SN18B	18" Breaker Bar
SXK5	5" Extension
SXK11	11" Extension

323GSWB Industrial Finish General Service Set in KRA280 Metal Box

23 pieces include:

12-Point Shallow Sockets:

GSW121A	3/8"	GSW221	11/16"	GSW341	1 1/16"
GSW141A	7/16"	GSW241	3/4"	GSW361	1 1/8"
GSW161A	1/2"	GSW261	13/16"	GSW381	1 3/16"
GSW181A	9/16"	GSW281	7/8"	GSW401	1 1/4"
GSW191A	19/32"	GSW301	15/16"		
GSW201	5/8"	GSW321	1"		

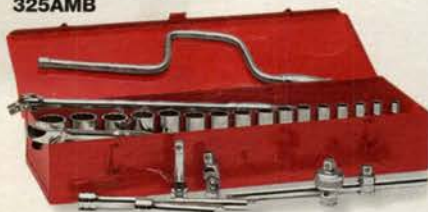
also includes:

KB4	18 3/4" Speeder
GU8	2 1/16" Universal Joint
GS936	Sealed Ratchet
GSXK3	3 1/2" Extension
GSXK5	5" Extension
GSXK11	11" Extension

323GSWB



325AMB



325AMB Chrome General Service Set in KRA280 Metal Box

25 pieces include:

12-Point Shallow Sockets:

SW121A	3/8"	SW281	7/8"
SW141A	7/16"	SW301	15/16"
SW161A	1/2"	SW321	1"
SW181A	9/16"	SW341	1 1/16"
SW201	5/8"	SW361	1 1/8"
SW221	11/16"	SW381	1 3/16"
SW241	3/4"	SW401	1 1/4"
SW261	13/16"	SW421	1 5/16"

also includes:

S4	18 7/8" Speeder	SXK3	3 1/2" Extension
S8	2 1/16" Universal Joint	SXK5	5" Extension
S12L	12" Sliding T-Handle	SXK11	11" Extension
S77	Ratcheting Adaptor		
S936	Sealed Ratchet		

344AMB Chrome General Service Set in KRA280 Metal Box

44 pieces include:

12-Point Shallow Sockets:

SW121A	3/8"	SW281	7/8"
SW141A	7/16"	SW301	15/16"
SW161A	1/2"	SW321	1"
SW181A	9/16"	SW341	1 1/16"
SW201	5/8"	SW361	1 1/8"
SW221	11/16"	SW381	1 3/16"
SW241	3/4"	SW401	1 1/4"
SW261	13/16"	SW421	1 5/16"

6-Point Universal Sockets:

307SUY 9/16" to 15/16" (7 pcs) (pg. 123)

12-Point Deep Sockets:

S161A	1/2"	S281	7/8"
S181A	9/16"	S301	15/16"
S201	5/8"	S321	1"
S221	11/16"	S341	1 1/16"
S241	3/4"	S361	1 1/8"
S261	13/16"		

also includes:

S4	18 7/8" Speeder
S8	2 1/16" Universal Joint
S12L	12" Sliding T-Handle
S77	Ratcheting Adaptor
S936	Sealed Ratchet
SN18B	18" Breaker Bar
SX2	2" Extension
SXK5	5" Extension
SXK11	11" Extension
LRS70A	1 19/32" Ratchet Spinner

Inches, 6 / 12-Point

344AMB



Metric, 6-Point

317AMMPC



General Service Sets 1/2" Drive

317AMMPC Chrome General Service Set

17 pieces include:

6-Point Shallow Sockets:

TWM12A	12mm	TWM18	18mm
TWM13A	13mm	TWM19	19mm
TWM14A	14mm	TWM20	20mm
TWM15A	15mm	TWM21	21mm
TWM16	16mm	TWM22	22mm
TWM17	17mm	TWM23	23mm
		TWM24	24mm

also includes:

S936	Sealed Ratchet
SXK5	5" Extension
SXK11	11" Extension
SN18B	18" Breaker Bar

Metric, 12-Point

345MMB



325MMB



345MMB Chrome General Service Set in KRA280 Metal Box

45 pieces include:

12-Point Socket Sets:

323SWMY Metric 12-Pt Shallow Socket Set
(23 pcs) (10 to 32mm)

313SMYA Metric 12-Pt Deep Socket Set
(13 pcs) (12 to 24mm)

also includes:

S4	18 7/8" Speeder
S8	2 1/16" Universal Joint
S12L	12" Sliding T-Handle
S77	Ratcheting Adaptor
S936	Sealed Ratchet
SN18B	18" Breaker Bar
SXK3	3 1/2" Extension
SXK5	5" Extension
SXK11	11" Extension

325MMB General Service Set in KRA280 Metal Box

25 pieces include:

12-Point Shallow Sockets:

SWM101A	10mm	SWM181	18mm
SWM111A	11mm	SWM191	19mm
SWM121A	12mm	SWM201	20mm
SWM131A	13mm	SWM211	21mm
SWM141A	14mm	SWM221	22mm
SWM151A	15mm	SWM231	23mm
SWM161	16mm	SWM241	24mm
SWM171	17mm	SWM251	25mm

also includes:

S4	18 7/8" Speeder
S8	2 1/16" Universal Joint
S12L	12" Sliding T-Handle
S77	Ratcheting Adaptor
S936	Sealed Ratchet
SXK3	3 1/2" Extension
SXK5	5" Extension
SXK11	11" Extension

Inches, 6 / 12-Point

360MB Chrome General Service Set

60 pieces include:

12-Point Shallow Sockets:

SW121A	3/8"	SW281	7/8"
SW141A	7/16"	SW301	15/16"
SW161A	1/2"	SW321	1"
SW181A	9/16"	SW341	1 1/16"
SW201	5/8"	SW361	1 1/8"
SW221	11/16"	SW381	1 3/16"
SW241	3/4"	SW401	1 1/4"
SW261	13/16"	SW421	1 5/16"

6-Point Deep Sockets:

TS161A	1/2"
TS181A	9/16"
TS201	5/8"
TS221	11/16"
TS241	3/4"
TS261	13/16"
TS281	7/8"
TS301	15/16"
TS321	1"
TS341	1 1/16"
TS361	1 1/8"

12-Point Deep Sockets:

S161A	1/2"
S181A	9/16"
S201	5/8"
S221	11/16"
S241	3/4"
S261	13/16"
S281	7/8"
S301	15/16"
S321	1"
S341	1 1/8"

6-Point Universal Sockets:

307SUY 9/16" to 15/16" (7 pcs) (pg. 123)

also includes:

A17	15/16" Blade Width Drag Link Socket
S9705K	13/16" 6-Pt Spark Plug Socket
S12L	12" Sliding T-Handle
S77	Ratcheting Adaptor
SN18B	18" Breaker Bar
SX2	2" Extension
SXK3	3 1/2" Extension

SXK5	5" Extension
SXK11	11" Extension
A80A	1/4" to 1/2" Capacity Stud Remover
LR570A	1 19/32" Ratchet Spinner
S936	Sealed Ratchet
SL936	Long Handle Sealed Ratchet
S4	18 7/8" Speeder
S8	2 1/16" Universal Joint

360MB



PIT3120EB



PIT3120EB Impact Driver Set. PIT160 Impact Driver (pg. 132) plus sockets and socket drivers (12 pcs) in KRA142 Metal Box.

PIT160 Impact Driver

A26	3/4" Drag Link Socket
SA10E	9/16" Hex Socket Driver
SA12E	3/8" Hex Socket Driver
SA14E	7/16" Hex Socket Driver
SA16E	1/2" Hex Socket Driver

SA18E 9/16" Hex Socket Driver

SA20E 5/8" Hex Socket Driver

SP32E #3 PHILLIPS® Driver

SP42E #4 PHILLIPS® Driver

SW28E 7/16" x .050" Socket Driver

SW32E 1/2" x .075" Socket Driver

Impact Driver Set

See Warranty Information on inside front cover.

1/2" Drive Ratchets

Snap-on® High Strength Sealed Ratchets

Patented design that features high-tech seals and special O-rings to seal in permanent lubrication and seal out dust, dirt, moisture, and other contaminants. You get a smooth-running ratchet with-out the responsibility of routine maintenance. U.S. Patent No. 4,934,220 and 6,125,722.

High Strength Sealed Ratchets



High-Strength Sealed Ratchets							A	B	C	
S936•▲	GS936•▲	Standard Handle	Sealed	—	36	10°	3/4	1 5/8	10 5/16	RKRS936
SL936•▲	—	Long Handle	Sealed	—	36	10°	3/4	1 5/8	15	RKRS936
SHL936A•▲	—	Long Handle	Sealed	Red	36	10°	3/4	1 5/8	16 5/8	RKRS936
SF936•▲	—	Long Flex-Handle	Sealed	—	36	10°	3/4	1 5/8	17 21/32	RKRS936
SH936A•▲	—	Standard Handle	Sealed	Red	36	10°	3/4	1 5/8	12	RKRS936
S936FOD•▲	—	F.O.D. Version	Sealed	—	36	10°	3/4	1 5/8	10 5/16	RKRS936
Sealed Ratchet										
SX936	—	Locking Flex-Handle	Sealed	—	36	10°	3/4	1 5/8	17 5/8	RKRS936

• ASME/ANSI B107.10M-1996

▲ Aerospace Spec. AS4283 Rev-A

*This ratchet is designed to help prevent foreign object damage in sensitive work environments.

The coverplate and reverse lever are permanently affixed to the ratchet head with rivets to prevent the chance of small parts debris.

RAT936



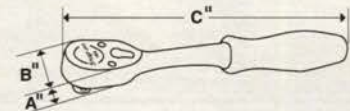
RAT936 Set. 1/4" drive T936, (pg. 76) 3/8" drive F936 (pg. 92) and 1/2" drive S936 (3 pcs) in plastic tray.

Specialty Ratchets



					B	C	
SR936*	—	36	10°	3/4	1 5/8	10 5/16	RKRSR936
SA936*	—	36	10°	3/4	1 5/8	10 5/16	RKRSR936
—	GSP936	36	10°	3/4	1 5/8	15 5/8	RKRGS936
CFS949A†	—	49	7°	2 1/32	1 19/32	8 3/4	RKRCSS949

- The quick release ratchet features a push-button release in the center of the square drive for easy one handed socket removal.
- * The scaffold ratchet is designed with a special socket and fastener protective plastic hammer head.
- † The "spud" ratchet is ideal for lining up holes in scaffolding and other construction jobs. A long reverse lever provides easy reversing while wearing heavy work gloves. Locking button retention. Taper diameter is 3/16"-7/8". Taper length is 8".



Accessories



Adaptors

		A	B	D
A1MF	—	1/2	3/8	1 1/2
A2A	GAF2A	3/8	1/2	1 5/16
—	GLA12B	1/2	3/4	1 7/8
—	GLA62A	3/4	1/2	3

ASME/ANSI B107.10M-1996

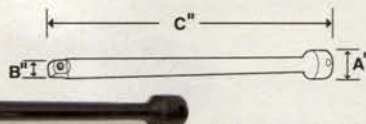


Magnetic Adaptors

	A	B	C	D
SXM212	9/32	2 1/32	1/2	2 2 1/32
SXM222	1/2	1 5/32	1/2	2 1 5/32

ASME/ANSI B107.10M-1996

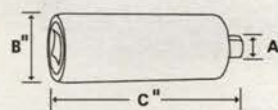
206XMSP Set. Includes 1/4" drive TMXM17 and TMXM114 Adaptors (pg. 77), 3/8" drive FXM18 and FXM112 Adaptors (pg. 95), and 1/2" drive SXM212 and SXM222 Adaptors (6 pcs) on a socket rail and clips.



Extension Adaptors

	A	B	C
GAX5	1/2	3/8	5
GAX12	1/2	3/8	12
GAX24	1/2	3/8	23 1/4
GAX36	1/2	3/8	36

ASME/ANSI B107.10M-1996



Composite (Insulating) Adaptors

Each tool is individually tested to ensure protection up to 1000V. These tools meet or exceed European Standards EN60900 and IEC60900 for dielectric strength tests and design requirements, ASTM 1505 and VDE 0680, Type Test Requirements. These tools meet or exceed B107.10M and ISO 3315 strength requirements for standard, non-insulated steel tools.

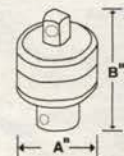
	A	B	C	D
CA1MF	3/8	1/2	1 5/16	3 25/32
CA2A	3/8	1/2	1	3 7/8



Ratchet Spinner

	A	B
LRS70A	3/4	1 19/32

ASME/ANSI B107.10M-1996



Ratcheting Adaptor

	A	B	
S77	20	18"	1 5/8
			2 9/16

ASME/ANSI B107.10M-1996



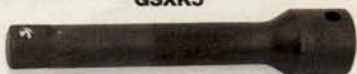
WARNING

- Do not use chrome or industrial finish hand tools with power drivers.
- Frequently inspect, clean, and lubricate all nonsealed ratchet mechanisms with light oil. Do not immerse sealed ratchets in fluids.
- Do not replace worn parts individually; use entire contents of the service kit.
- Read additional safety precautions on pages M1 to M4.

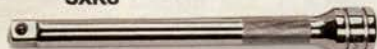


1/2" Drive Accessories

GSXK5



SXK8

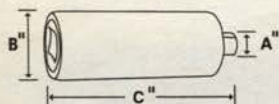


Knurled Extensions

		A	B
SX2	—	5/8	2 1/8
SXK3	GSXK3	5/8	3 1/2
SXK5	GSXK5	5/8	5
SXK8	—	5/8	8
SXK11	GSXK11	5/8	11
SX15	—	5/8	15
SX20	—	5/8	20
SX24	—	5/8	24
SX36	—	5/8	36

ASME/ANSI B107.10M-1996

305ASX Set. SX2 thru SXK11 (5 pcs) (2" to 11") in a plastic tray.



CSX5



Composite (Insulating) Extensions

Each tool is individually tested to ensure protection up to 1000V. These tools meet or exceed European Standards EN60900 and IEC60900 for dielectric strength tests and design requirements, ASTM 1505 and VDE 0680, Type Test Requirements. These tools meet or exceed ASME B107.1, B107.10M, ISO 1711 and ISO 3315 strength requirements for standard, non-insulated steel tools. U.S. Patents 5,394,773, 5,448,932 and 5,875,693 apply.

	A	B	C
CSX5	1/2	1 5/16	5 21/32
CSX10	1/2	1 5/16	10 21/32

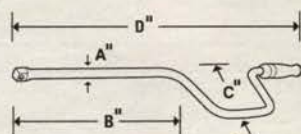
S4



SN4A



KB4



Speeders

		A	B	C	D
S4	—	1/2	7	4 3/8	18 7/8
—	KB4	1/2	8 7/16	4 1/8	18 3/4
SN4A*	—	5/8	6 3/8	3	17 1/4

*Flex-Head Speeder

ASME/ANSI B107.10M-1996

Wobble Extensions

	A	B
SXWP2	5/8	2 1/16
SXWP3	5/8	3 1/2
SXWP5	5/8	5
SXWP8	5/8	7 27/32
SXWP11	5/8	11 3/16

ASME/ANSI B107.10M-1996

305ASXW Set. SXW2 thru SXWK11 (5 pcs) (2" to 11") in a plastic tray.

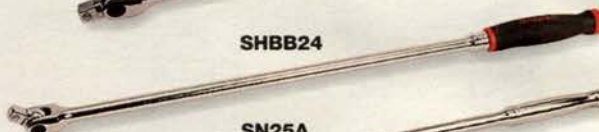
GS15C



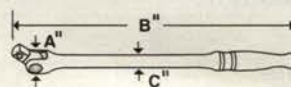
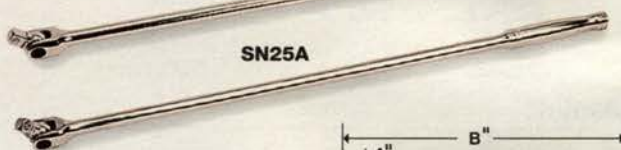
SN15B



SHBB24



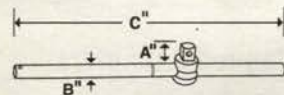
SN25A



Breaker Bars

		A	B	C
SN15B	GS15C	Breaker Bar	1 1/4	15 5/8
SN18B	GSN18B	Breaker Bar	1 1/2	18 5/8
SN24C	—	Breaker Bar	1 1/2	24 5/8
SHBB24	—	Breaker Bar, Soft Grip	1 1/2	24 5/8
SN25A	—	Breaker Bar, 45° Offset Square	1 1/2	24 5/8

ASME/ANSI B107.10M-1996



Sliding T-Handles

		A	B	C
S12L	GS12L	1 11/16	5/8	12

ASME/ANSI B107.10M-1996



Universal Joints

		A	B
S8	GU8	1 5/16	2 11/16

ASME/ANSI B107.10M-1996

103UFTS Set. Includes 1/4" drive TMU8B (pg. 77), 3/8" drive FU8A (pg. 96), and 1/2" drive S8 Universal Joints (3 pcs) in a plastic tray.



FLANK DRIVE® Sockets 1/2" Drive

TW241



GTW121A



SW241

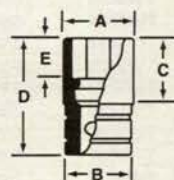


GSW181A



Shallow

11	6	12	6	12	A	B	C	D	E
3/8	TW121A	SW121A	GTW121A	GSW121A	19/32	29/32	7/8	1 1/2	5/16
7/16	TW141A	SW141A	GTW141A	GSW141A	11/16	29/32	7/8	1 1/2	11/32
1/2	TW161A	SW161A	GTW161A	GSW161A	3/4	29/32	7/8	1 1/2	13/32
9/16	TW181A	SW181A	GTW181A	GSW181A	13/16	29/32	7/8	1 1/2	13/32
19/32	—	SW191A	—	GSW191A	7/8	29/32	7/8	1 1/2	13/32
5/8	TW201	SW201	GTW201	GSW201	15/16	7/8	7/8	1 1/2	15/32
11/16	TW221	SW221	GTW221	GSW221	31/32	29/32	7/8	1 1/2	1/2
3/4	TW241	SW241	GTW241	GSW241	1 1/32	1 1/16	7/8	1 1/2	9/16
13/16	TW261	SW261	GTW261	GSW261	1 1/8	1 1/16	7/8	1 1/2	9/16
7/8	TW281	SW281	GTW281	GSW281	1 3/16	1 1/8	7/8	1 1/2	9/16
15/16	TW301	SW301	GTW301	GSW301	1 9/32	1 7/32	27/32	1 17/32	3/4
1	TW321	SW321	GTW321	GSW321	1 11/32	1 9/32	7/8	1 9/16	3/4
1 1/16	TW341	SW341	GTW341	GSW341	1 7/16	1 3/8	1 31/32	1 11/16	3/4
1 1/8	TW361	SW361	GTW361	GSW361	1 1/2	1 7/16	1 31/32	1 3/4	1 3/16
1 3/16	TW381	SW381	—	GSW381	1 5/8	1 9/16	1 1/8	1 3/4	3/4
1 1/4	TW401	SW401	GTW401	GSW401	1 11/16	1 5/8	1 1/4	1 7/8	3/4
1 5/16	TW421	SW421	—	GSW421	1 3/4	1 11/16	1 1/4	1 7/8	1
1 3/8	TW441	SW441	—	GSW441	1 13/16	1 3/4	1 7/16	2 1/16	1
1 7/16	TW461	SW461	—	GSW461	1 15/16	1 7/8	1 5/8	2 1/4	1
1 1/2	TW481	SW481	—	GSW481	2	1 15/16	1 5/8	2 1/4	1



ASME/ANSI: B107.1-1993

6-Point Shallow Sets:

319TWY Set. TW121A thru TW481 (19 pcs) (3/8" to 1 1/2") on two A270 Socket Rails and Clips.

313TWYA Set. TW121A thru TW361 (13 pcs) (3/8" to 1 1/8") on A267 Socket Rail and Clips.

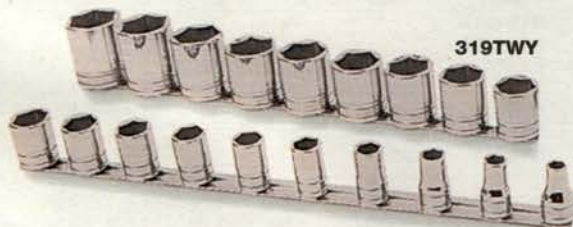
314GTWYA Set. GTW121A thru GTW401 (14 pcs) (3/8" to 1 1/4") on two A270 Socket Rails and Clips.

12-Point Shallow Sets:

319SWY Set. SW121A thru SW481 (except SW191) (19 pcs) (3/8" to 1 1/2") on two A270 Socket Rails and Clips.

313SWYA Set. SW121A thru SW361 (except SW191) (13 pcs) (3/8" to 1 1/8") on A270 Socket Rail and Clips.

316GSWY Set. GSW121A thru GSW421 (except GSW191) (16 pcs.) (3/8" to 1 5/16") on two A269 Socket Rails and Clips.



319TWY



314GTWYA



313SWYA



WARNING

- Do not use chrome or industrial finish hand tools with power drivers.
- Read additional safety precautions on pages M1 to M4.



1/2" Drive FLANK DRIVE® Sockets

TWM20

SWM241

310TWMYA



Shallow

mm	6	12	A	B	C	D	E
8	TWM8	—	12.2	22.9	21.4	38.1	6.4
9	TWM9	—	14.0	22.9	21.4	38.1	6.4
10	TWM10A	SWM101A	15.0	23.2	22.2	38.1	7.9
11	TWM11A	SWM111A	16.6	23.2	22.2	38.1	8.7
12	TWM12A	SWM121A	18.2	23.2	22.2	38.1	9.5
13	TWM13A	SWM131A	19.0	23.2	22.2	38.1	10.3
14	TWM14A	SWM141A	20.6	23.2	22.2	38.1	10.3
15	TWM15A	SWM151A	22.2	22.2	22.2	38.1	10.3
16	TWM16	SWM161	23.8	22.2	22.2	38.1	11.9
17	TWM17	SWM171	24.6	23.2	22.2	38.1	12.7
18	TWM18	SWM181	25.4	23.8	21.4	38.1	14.2
19	TWM19	SWM191	26.3	24.8	21.3	38.1	13.9
20	TWM20	SWM201	26.7	26.1	21.2	38.1	14.0
21	TWM21	SWM211	28.3	27.5	21.1	38.1	14.0
22	TWM22	SWM221	29.9	28.6	20.9	38.1	14.2
23	TWM23	SWM231	31.2	29.9	20.8	38.1	14.5
24	TWM24	SWM241	32.5	30.9	22.2	38.8	15.8
25	TWM25	SWM251	33.3	31.7	22.2	38.8	15.8
26	TWM26	SWM261	34.9	33.3	23.8	41.2	15.8
27	TWM27	SWM271	36.5	34.9	25.4	42.8	17.4
28	TWM28	SWM281	38.1	36.5	26.9	44.4	17.4
29	TWM29	SWM291	39.3	38.0	26.1	44.5	17.8
30	TWM30	SWM301	41.0	39.6	26.1	44.5	18.5
31	TWM31	SWM311	42.5	41.2	29.1	47.6	19.1
32	TWM32	SWM321	42.5	41.2	28.9	47.6	19.8
34	TWM34	—	42.5	41.2	29.1	47.6	19.8

310SWMYA



Metric 6-Point Shallow Sets:

323TWMY. TWM10A thru TWM32 (23 pcs) (10 to 32mm) on two A270 Socket Rails and Clips.

318TWMY. TWM10A thru TWM27 (18 pcs) (10 to 27mm) on two A269 Socket Rails and Clips.

313TWMYA. TWM12A thru TWM24 (13 pcs) (12 to 24mm) on A270 Socket Rail and Clips.

310TWMYA. TWM10A thru TWM19 (10 pcs) (10 to 19mm) on A269 Socket Rail and Clips.

Metric 12-Point Shallow Sets:

323SWMY. SWM101A thru SWM321 (23 pcs) (10 to 32mm) on two A270 Socket Rails and Clips.

318SWMY. SWM101A thru SWM271 (18 pcs) (10 to 27mm) on two A269 Socket Rails and Clips.

313SWMYA. SWM121A thru SWM241 (13 pcs) (12 to 24mm) on A270 Socket Rail and Clips.

310SWMYA. SWM101A thru SWM191 (10 pcs) (10 to 19mm) on A269 Socket Rail and Clips.

313TSYA



TS241



S241



313GTSYA



GS201



313SYA



GTS241



326TWSA



6-Point Chrome Deep Sets:

319TSY. TS121A thru TS481 (19 pcs) (3/8" to 1 1/2") on two A270 Socket Rails and Clips.

313TSYA. TS121A thru TS361 (13 pcs) (3/8" to 1 1/8") on A267 Socket Rail and Clips.

6-Point Industrial Finish Deep Sets:

315GTSY. GTS121A thru GTS401 (15 pcs) (3/8" to 1 1/4") on A266 Socket Rail and Clips.

313GTSYA. GTS121A thru GTS361 (13 pcs) (3/8" to 1 1/8") on A267 Socket Rails and Clips.

6-Point Shallow/Deep Sets:

326TWSA. Includes TW121A thru TW361 Shallow Sockets (pg. 121) plus TS121A thru TS361 Deep Sockets (26 pcs) (3/8" to 1 1/8") in a plastic tray.

12-Point Chrome Deep Sets:

319SY. S121A thru S481 (19 pcs) (3/8" to 1 1/2") on two A270 Socket Rails and Clips.

313SYA. S121A thru S361 (13 pcs) (3/8" to 1 1/8") on A267 Socket Rail and Clips.

12-Point Industrial Deep Sets:

313GSY. GS161A thru GS401 (13 pcs) (1/2" to 1 1/4") on A270 Socket Rail and Clips.

Deep

	11	6	12	6	12	A	B	C	D	E
3/8	TS121A	S121A	GTS121A	—	—	1 9/32	2 9/32	2 5/8	3 1/4	5/16
7/16	TS141A	S141A	GTS141A	—	—	3/4	2 9/32	2 5/8	3 1/4	11/32
1/2	TS161A	S161A	GTS161A	GS161A	—	3/4	2 9/32	2 5/8	3 1/4	13/32
9/16	TS181A	S181A	GTS181A	GS181A	—	13/16	2 9/32	2 5/8	3 1/4	13/32
5/8	TS201	S201	GTS201	GS201	—	1 1/16	7/8	1 31/32	3 1/4	13/32
11/16	TS221	S221	GTS221	GS221	—	31/32	2 9/32	1 31/32	3 1/4	1/2
3/4	TS241	S241	GTS241	GS241	—	1 1/32	31/32	2 5/8	3 1/4	9/16
13/16	TS261	S261	GTS261	GS261	—	1 1/8	1 1/16	2 5/8	3 1/4	9/16
7/8	TS281	S281	GTS281	GS281	—	1 3/16	1 1/8	2 5/8	3 1/4	9/16
15/16	TS301	S301	GTS301	GS301	—	1 9/32	1 1/32	1 31/32	3 1/4	3/4
1	TS321	S321	GTS321	GS321	—	1 11/32	1 9/32	1 31/32	3 1/4	3/4
1 1/16	TS341	S341	GTS341	GS341	—	1 7/16	1 3/8	1 31/32	3 1/4	3/4
1 1/8	TS361	S361	GTS361	GS361	—	1 1/2	1 7/16	1 31/32	3 1/4	1 3/16
1 3/16	TS381	S381	GTS381	GS381	—	1 5/8	1 9/16	2 5/8	3 1/4	1 3/16
1 1/4	TS401	S401	GTS401	GS401	—	1 11/16	1 5/8	2 5/8	3 1/4	1
1 5/16	TS421	S421	—	—	—	1 3/4	1 11/16	2 9/16	3 1/4	1
1 3/8	TS441	S441	—	—	—	1 13/16	1 3/4	2 9/16	3 1/4	1
1 7/16	TS461	S461	—	—	—	1 15/16	1 7/8	2 5/8	3 1/4	1
1 1/2	TS481	S481	—	—	—	2	1 15/16	2 5/8	3 1/4	1 1/16

ASME/ANSI B107.1-1993

FLANK DRIVE® Sockets 1/2" Drive



TSM21



SM24



322TSMY



310SMYA

Deep

mm	6	12	A	B	C	D	E
10	TSM10A	SM10A	15.0	23.2	66.7	82.6	7.9
11	—	SM11A	16.6	23.2	66.7	82.6	8.7
12	TSM12A	SM12A	18.2	23.2	66.7	82.6	9.5
13	TSM13A	SM13A	19.0	23.2	66.7	82.6	10.3
14	TSM14A	SM14A	20.6	23.2	66.7	82.6	10.3
15	TSM15A	SM15A	22.2	22.2	66.7	82.6	10.3
16	TSM16	SM16	23.8	22.2	51.0	82.6	11.9
17	TSM17	SM17	24.6	23.2	51.0	82.6	12.7
18	TSM18	SM18	25.4	23.8	51.0	82.6	14.3
19	TSM19	SM19	26.3	24.6	52.5	82.6	14.2
20	TSM20	SM20	26.7	26.1	58.5	82.6	14.0
20.6	—	SM20.6	28.3	27.0	56.9	82.6	14.7
21	TSM21	SM21	28.3	27.5	58.5	82.6	14.0
22	TSM22	SM22	29.9	28.6	58.5	82.6	14.2
23	TSM23	SM23	31.2	29.9	58.0	82.6	14.5
24	TSM24	SM24	32.5	30.9	50.0	82.6	15.8
25	TSM25	SM25	33.3	31.7	50.0	82.6	15.8
26	TSM26	SM26	34.9	33.3	50.0	82.6	15.8
27	TSM27	SM27	36.2	34.9	50.0	82.6	17.5
28	TSM28	SM28	37.8	36.5	50.0	82.6	17.5
29	TSM29	SM29	39.3	38.0	64.3	82.6	17.8
30	TSM30	SM30	41.0	39.6	64.0	82.6	18.5
31	TSM31	SM31	42.5	41.2	64.0	82.6	19.1
32	TSM32	SM32	42.5	41.2	63.8	82.6	19.8

6-Point Chrome Deep Sets:

322TSMY Metric 6-Point Deep Set. TSM10A thru TSM32 (22 pcs) (10 to 32mm) on two A270 Socket Rails and Clips.

313TSMYA Metric 6-Point Deep Set. TSM12A thru TSM24 (13 pcs) (12 to 24mm) on A270 Socket Rail and Clips.

310TSMYA Metric 6-Point Deep Set. TSM10A thru TSM20 (10 pcs) (10 to 19mm) on A269 Socket Rail and Clips.

6-Point Chrome Deep/Shallow Sets:

320TSMWA Metric 6-Point Deep/Shallow Set. Includes TWM10A thru TWM19 Shallow Sockets (pg. 122) and TSM10A thru TSM20 Deep Sockets (20 pcs) (10 to 20mm) in a plastic tray.

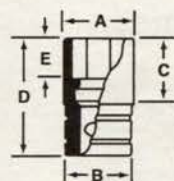
12-Point Chrome Deep Sets:

323SMY Metric 12-Point Deep Set. SM10A thru SM32 (except SM20.6) (23 pcs) (10 to 32mm) on two A270 Socket Rails and Clips.

313SMYA Metric 12-Point Deep Set. SM12A thru SM24 (except SM20.6) (13 pcs) (12 to 24mm) on A270 Socket Rail and Clips.

310SMYA Metric 12-Point Deep Set. SM10A thru SM19 (10 pcs) (10 to 19mm) on A269 Socket Rail and Clips.

SU24



Universal

mm	6	A	B	D	E
9/16	SU18	27/32	15/16	2 7/16	1 1/32
5/8	SU20	15/16	15/16	2 15/32	3/8
11/16	SU22	1 1/16	1 1/16	2 9/16	7/16
3/4	SU24	1 1/8	1 1/8	2 7/8	1/2
13/16	SU26	1 3/16	1 1/8	2 15/16	9/16
7/8	SU28	1 1/4	1 1/8	2 15/16	9/16
15/16	SU30	1 5/16	1 1/8	3	9/16

ASME/ANSI Spec.: B107.1-1993

307SUY 6-Point Set. SU18 thru SU30 (7 pcs) (9/16" to 15/16") on A269 Socket Rail and Clips.



307SUY



WARNING

- Do not use chrome or industrial finish hand tools with power drivers.
- Read additional safety precautions on pages M1 to M4.



1/2" Drive Special Purpose Sockets

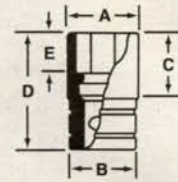


Double Square

#		A	B	C	D	E
3/8	SW412	23/32	7/8	7/8	1 1/2	5/16
7/16	SW414	51/64	7/8	7/8	1 1/2	3/8
1/2	SW416	29/32	7/8	7/8	1 1/2	13/32
9/16	SW418	31/32	29/32	7/8	1 1/2	7/16
5/8	SW420	1 1/16	1	7/8	1 1/2	1/2
11/16	SW422	1 3/16	1 1/8	7/8	1 1/2	1/2
3/4	SW424	1 9/32	1 3/16	7/8	1 1/2	9/16
13/16	SW426	1 7/16	1 3/8	1	1 5/8	5/8
7/8	SW428	1 1/2	1 7/16	1 1/8	1 3/4	5/8
15/16	SW430	1 5/8	1 9/16	1 1/8	1 13/16	11/16
1	SW432	1 11/16	1 5/8	1 1/4	1 7/8	11/16

ASME/ANSI B107.1-1993

311ASQY 8-Point Set. SW412 thru SW432 (11 pcs) (3/8" to 1")
on A267 Socket Rail and Clips.



TORX® Shallow

#		A	B	D
E12	SLE120	19/32	7/8	1 1/2
E14	SLE140	21/32	7/8	1 1/2
E16	SLE160	23/32	27/32	1 1/2
E18	SLE180	27/32	7/8	1 1/2
E20	SLE200A	15/16	7/8	1 1/2
E24	SLE240	1 1/16	1	1 1/2



Pipe Plug

A	B	C
1/2	PPM516A	1 7/16

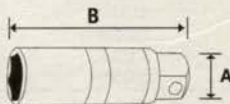
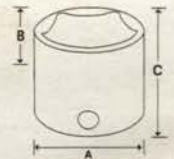


FLANK DRIVE® Pentagon Socket

Serves recessed 5-point nuts found on tamper-proof Buffalo covers used by gas, electric, and water companies to protect shut-off gates.



	A	B	C
B2191	1 1/8	1/2	1 1/16



FLANK DRIVE® Spark Plug Socket

#		A	B	Rubber Insert
13/16	S9705K	7/8	2 1/2	S9705A2

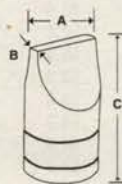


FLANK DRIVE® Spark Plug Socket with Retaining Ring

#		A	B	Rubber Insert
7/8	S6106K	7/8	3 1/2	S6106-2R

WEATHERHEAD® Sockets

#		A	B
7/8	WH280	1 3/8	1 13/16
29/32	WH290	1 7/16	1 13/16
15/16	WH300	1 1/2	1 13/16



Drag Links

Extra Strength to remove drain plugs.
Cummins diesel applications.

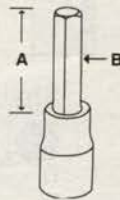
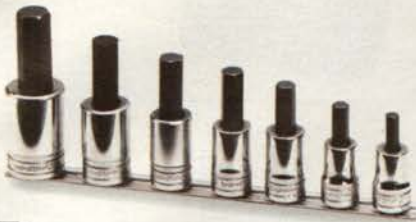


	A	B	C
A26	3/4	.109	1 11/16
A17	15/16	.150	1 11/16
A15	1 3/16	.150	1 11/16



Socket Drivers 1/2" Drive

307ESAY



307ESAMY



Hex

			A	B
5/16"	SA10E	GSA10E	2 3/8"	FA10E2
3/8"	SA12E	GSA12E	2 1/2"	SA12E2
7/16"	SA14E	GSA14E	2 7/8"	SA14E2-2
1/2"	SA16E	GSA16E	3 1/16"	SA16E2
9/16"	SA18E	GSA18E	3 3/16"	SA18E2
5/8"	SA20E	GSA20E	3 11/32"	LAW120E2
3/4"	SA24E	GSA24E	4 1/16"	LAW124E2

Chrome Set:

307ESAY Set. SA10E thru SA24E (7 pcs) (5/16" to 3/4") on A269 Socket Rail and Clips.

Industrial Set:

307EGSAY Set. GSA10E thru GSA24E (7 pcs) (5/16" to 3/4") on A269 Socket Rail and Clips.

Hex

mm		A	B
6	SAM6E	60.5	FAM6E
8	SAM8E	62.0	FAM8E2
10	SAM10E	62.8	SAM10E2-5
12	SAM12E	81.0	SAM12E2
14	SAM14E	81.0	SAM14E2
17	SAM17E	93.7	SAM17E2
19	SAM19E	103.1	SAM19E2

307ESAMY Metric Set. SAM6E thru SAM19E (7 pcs) (6 to 19mm) on A265 Socket Rail and Clips.

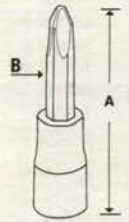
Flat Tip

		A	B
7/16" x .050"	SW28E	3 1/16"	SW28E2
1/2" x .075"	SW32E	3 1/8"	SW32E2
5/8" x .093"	SW40E	3 1/4"	SW40E2



PHILLIPS®

#		A	B
#3	SP32E	2 3/16"	SP32E2
#4	SP42E	2 5/16"	SP42E2



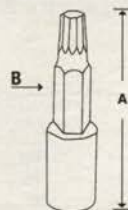
TORX®

#		A	B
Standard:			
T55	STX55E	2 9/16"	FTX55E2
T60	STX60E	3 11/32"	STX60E2
Long:			
T45	STXL45E	4 5/8"	STXL45E2
T50	STXL50E	4 5/8"	STXL50E2
T55	STXL55E	4 5/8"	STXL55E2
T60	STXL60E	4 5/8"	STXL60E2



Triple Square

mm		A	B
10	STSM10E	88.9	STSM10E2
12	STSM12E	109.5	STSM12E2
12	STSM12LE	147.6	STSM12LE2



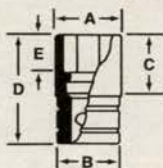
WARNING

- Do not use chrome or industrial finish hand tools with power drivers.
- Read additional safety precautions on pages M1 to M4.



1/2" Drive

FLANK DRIVE® Power Sockets



Shallow

II	6	12	A	B	C	D	E
3/8	P120A	—	19/32	29/32	7/8	1 1/2	5/16
7/16	P140A	PDH140A	23/32	29/32	7/8	1 1/2	11/32
1/2	P160A	PDH160A	3/4	29/32	7/8	1 1/2	13/32
9/16	P180A	PDH180A	7/8	29/32	7/8	1 1/2	13/32
5/8	P200	PDH200	15/16	1	7/8	1 1/2	15/32
11/16	P220	PDH220	1 1/16	1 1/16	7/8	1 1/2	1/2
3/4	P240	PDH240	1 1/8	1 1/8	7/8	1 1/2	1/2
13/16	P260	—	1 1/4	1 1/4	7/8	1 1/2	1/2
7/8	P280	PDH280	1 5/16	1 5/16	3/4	1 1/2	9/16
15/16	P300A	—	1 3/8	1 3/8	1 1/16	1 3/4	3/4
1 1/16	P340A	—	1 9/16	1 9/16	1 3/8	2	25/32

Shallow

mm	6	A	B	C	D	E
13	PM13A	19.0	23.2	22.2	38.1	10.3
15	PM15A	22.2	23.2	22.2	38.1	10.3
17	PM17	24.6	24.6	22.2	38.1	12.7
18	PM18	25.4	25.4	22.2	38.1	14.2
19	PM19	26.4	26.4	21.3	38.1	11.5
21	PM21	28.3	28.3	21.3	38.1	11.9
24	PM24	32.5	32.5	21.4	38.8	15.8

Deep

II	6	A	B	C	D	E
7/16	SP140A	23/32	29/32	2 5/8	3 1/4	11/32
1/2	SP160A	3/4	29/32	2 5/8	3 1/4	13/32
9/16	SP180A	7/8	29/32	2 5/8	3 1/4	13/32
5/8	SP200	13/32	29/32	2 5/8	3 1/4	15/32
11/16	SP220	1 1/16	1 1/16	2 5/8	3 1/4	1/2
3/4	SP240	1 1/8	1 1/8	2 5/8	3 1/4	9/16
13/16	SP260	1 1/4	1 1/4	2 5/8	3 1/4	19/32
7/8	SP280	1 5/16	1 5/16	2 3/32	3 1/2	9/16
15/16	SP300A	1 3/8	1 3/8	2 3/32	3 1/2	3/4
1	SP320A	1 7/16	1 7/16	2 3/32	3 1/2	3/4

Deep

mm	6	A	B	C	D	E
13	SPM13A	19.0	22.2	66.6	82.6	10.3
15	SPM15A	22.2	22.2	66.6	82.6	10.3
17	SPM17	24.6	24.6	66.6	82.6	12.7
18	SPM18	25.4	25.1	66.6	82.6	14.2
19	SPM19	26.4	26.4	64.8	82.6	11.9
21	SPM21	28.3	28.3	64.8	82.6	12.3
24	SPM24	32.5	32.5	50.0	82.6	15.8

307SPMY Metric 6-Point Deep Set. SPM13A thru SPM24 (7 pcs)
(13 to 24mm) on A265 Socket Rail and Clips.

Surface Drive Power Sockets



Surface drive sockets are used in the industrial market for assembly line work. The lead-in chamfer and special design of these sockets will engage with a fastener while rotating on a power nut runner. U.S. Patent No. 4,512,220 applies.



Shallow

II	6	A	B	C	D	E
1/2	DT16A	3/4	29/32	27/32	1 1/2	13/32
9/16	DT18A	13/16	29/32	27/32	1 1/2	13/32
5/8	DT20A	15/16	15/16	27/32	1 1/2	1/2
3/4	DT24A	1 1/32	1 1/32	13/16	1 1/2	9/16
15/16	DT30A	1 9/32	1 9/32	27/32	1 17/32	3/4

Shallow

mm	6	A	B	C	D	E
13	DTM13A	19.3	22.9	21.3	38.1	9.4
15	DTM15A	22.3	22.9	21.3	38.1	10.7
18	DTM18A	25.3	25.3	21.3	38.1	14.0

Deep

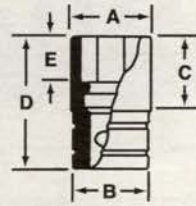
II	6	A	B	C	D	E
1/2	DTS16A	3/4	29/32	2 19/32	3 1/4	13/32
9/16	DTS18A	13/16	29/32	2 19/32	3 1/4	13/32
5/8	DTS20A	15/16	15/16	2 1/8	3 1/4	1/2
3/4	DTS24A	1 1/32	1 1/32	2 5/16	3 1/4	5/8

Deep

mm	6	A	B	C	D	E
13	DTSM13A	19.3	21.8	65.8	82.6	10.2
15	DTSM15A	22.3	21.8	65.8	82.6	10.7
18	DTSM18A	25.3	25.3	57.8	82.6	14.0

Surface Drive Power Sockets 1/2" Drive

310PY



Shallow Double Square

#	8	A	B	C	D	E
3/8	P412	13/32	7/8	7/8	1 1/2	5/16
7/16	P414	13/16	15/16	7/8	1 1/2	3/8
1/2	P416	29/32	1	7/8	1 1/2	13/32
9/16	P418	1	1 1/8	7/8	1 1/2	1/2
5/8	P420	1 3/32	1 3/16	7/8	1 1/2	1/2
11/16	P422	1 7/32	1 1/4	7/8	1 1/2	13/32
3/4	P424	1 5/16	1 3/8	7/8	1 1/2	9/16
13/16	P426	1 7/16	1 7/16	7/8	1 1/2	5/8
7/8	P428	1 1/2	1 9/16	7/8	1 1/2	5/8
1	P432	1 23/32	1 3/4	1 1/8	1 3/4	3/4

310PY 8-Point Set. P412 thru P432 (10 pcs) (3/8" to 1") on two A269 Socket Rails and Clips.

Deep Double Square

#	8	A	B	C	D	E
5/8	SIPR420	1 1/8	1 1/8	2 9/16	3 1/4	1/2
3/4	SIPR424	1 5/16	1 1/8	2 5/8	3 1/4	1/2
13/16	SIPR426	1 7/16	1 3/8	2 9/16	3 1/4	5/8
7/8	SIPR428	1 9/16	1 3/8	2 25/32	3 1/2	21/32
1	SIPR432	1 3/4	1 1/2	2 11/16	3 1/2	3/4
1 1/16	SIPR434	1 7/8	1 3/8	2 3/4	3 1/2	25/32
1 1/8	SIPR436	1 15/16	1 1/2	2 23/32	3 1/2	27/32



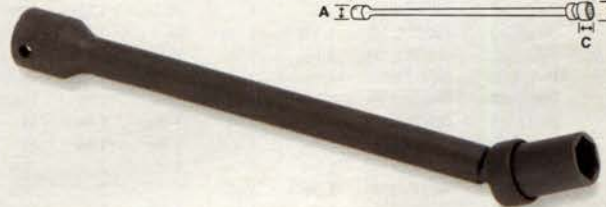
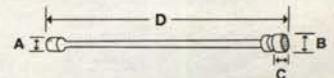
Extra Deep Double Square

#	8	A	B	C	D	E
1 1/8	SIPRL436	1 15/16	1 1/2	4 13/32	5	27/32



FLANK DRIVE® Magnetic

#	6	A	B	D	E
3/8	MPK121A	19/32	7/8	1 1/2	1/8
7/16	MPK141A	11/16	7/8	1 1/2	5/32
1/2	MPK161A	29/32	15/16	1 1/2	5/32
9/16	MPK181A	7/8	15/16	1 1/2	5/32



TORX®

#		A	B	D
E10	PSLE100	1/2	7/8	1 1/2
E12	PSLE120A	19/32	29/32	1 1/2
E14	PSLE140A	21/32	29/32	1 1/2

FLANK DRIVE® Flexible Extension Socket

mm	6	A	B	C	D
15	PSXM915	25.1	21.6	10.7	253.9



WARNING

- Do not use chrome or industrial finish hand tools with power drivers.
- Read additional safety precautions on pages M1 to M4.



1/2" Drive



307PSAY

Hex

#		A	B
5/16	PSA10E	2 7/16	FA10E2
3/8	PSA12E	2 9/16	SA12E2
7/16	PSA14E	2 7/8	SA14E2-2
1/2	PSA16E	3 1/16	SA16E2
9/16	PSA18E	3 1/8	SA18E2
5/8	PSA20E	3 7/16	LAW120E2
3/4	PSA24E	4 1/16	LAW124E2

307PSAY Set. PSA10E thru PSA24E (7 pcs) (5/16" to 3/4") on A265 Socket Rail and Clips.

Power Drivers



210EPTXY

TORX®

#		A	B
T45	PSTX45E	2 7/16	FTX45E2
T50	PSTX50E	2 9/16	FTX50E2
T47	PSTX500E*	2 7/8	FTX500E2
T55	PSTX55E	3 1/16	FTX55E2

*GM-Style TORX®

Combination 1/4", 3/8", and 1/2" Drive Set:

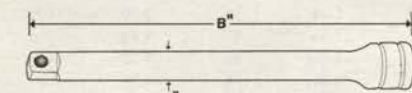
210EPTXY TORX® Set. Includes 1/4" drive PTTX15E thru PTTX25E Drivers (pg. 86), 3/8" drive PFTX27E thru PFTX40E Drivers (pg. 110) plus 1/2" drive PSTX45E, PSTX50E, PSTX55E, and PSTX500E Drivers (10 pcs) (T15 to T55) on A269 Socket Rail and Clips.

Power Accessories



Adaptors (Lock Button Retention)

	A	B	C	D
PA2A	3/8	1/2	3/4	1 5/16
PA4A	1/2	3/8	15/16	1 15/32

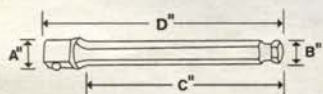


Extensions (Lock Button Retention)

	A	B
PS2	5/8	2
PS3	5/8	3 1/2
PS5	5/8	5
PS10	5/8	10



Hex Shanks



	A	B	C	D
A3011A	1/2	7/16	1 1/4	2 3/4
A3012A	1/2	7/16	1 1/4	5
A3021A	1/2	5/8	2 1/8	2 3/4



Shallow

#	6	12	A	B	C	D	E
3/8	IML120	IMDL120	19/32	29/32	7/8	1 1/2	5/16
7/16	IML140	IMDL140	23/32	29/32	7/8	1 1/2	11/32
1/2	IML160	IMDL160	13/16	29/32	7/8	1 1/2	13/32
9/16	IML180	IMDL180	7/8	29/32	7/8	1 1/2	13/32
5/8	IML200	IMDL200	15/16	1	7/8	1 1/2	15/32
11/16	IML220	IMDL220	1 1/16	1 1/16	3/4	1 1/2	1/2
3/4	IML240	IMDL240	1 1/8	1 1/8	3/4	1 1/2	1/2
13/16	IML260	IMDL260	1 1/4	1 1/4	3/4	1 1/2	1/2
7/8	IML280	IMDL280	1 5/16	1 5/16	13/16	1 1/2	9/16
15/16	IML300	IMDL300	1 3/8	1 3/8	1 1/16	1 3/4	3/4
1	IML320	IMDL320	1 7/16	1 7/16	1 1/16	1 3/4	3/4
1 1/16	IML340	—	1 9/16	1 9/16	1	2	13/16
1 1/8	IML360	IMDL360	1 5/8	1 5/8	1	2	13/16
1 3/16	IML380	—	1 11/16	1 1/2	1 3/32	2	13/16
1 1/4	IML400	IMDL400	1 3/4	1 1/2	1 1/32	2	13/16
1 5/16	IML420	—	1 7/8	1 1/2	1 3/8	2	7/8
1 3/8	IML440	—	1 15/16	1 1/2	1 3/8	2	7/8
1 7/16	IML460	—	2	1 1/2	1 3/8	2	15/16
1 1/2	IML480	—	2 1/8	1 9/16	1 3/8	2	15/16
1 9/16	IML500	—	2 1/4	1 5/8	1 11/16	2 5/16	15/16

6-Point Sets:

320IMYLM Shallow Set. IML120 thru IML500 (20 pcs) (3/8" to 1 9/16") on two A270 Socket Rails and Clips.

311IMYLM Shallow Set. IML120 thru IML320 (11 pcs) (3/8" to 1") on A267 Socket Rail and Clips.

FLANK DRIVE® Impact Sockets



307IMDYLM



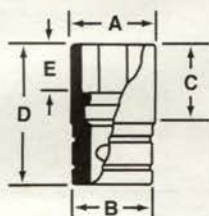
12-Point Sets:

313IMDLM Shallow Set. IMDL120 thru IMDL400 (13 pcs) (3/8" to 1 1/4").

307IMDYLM Shallow Set. IMDL120 thru IMDL240 (7 pcs) (3/8" to 3/4") on A269 Socket Rail and Clips.

FLANK DRIVE® Impact Sockets 1/2" Drive

Shallow



mm	6	12	A	B	C	D	E
10	IMML100	IMDML100	15.0	22.6	22.2	38.1	7.9
11	IMML110	IMDML110	18.2	22.6	22.2	38.1	8.7
12	IMML120	IMDML120	19.0	24.3	22.2	38.1	9.5
13	IMML130	IMDML130	20.6	24.3	22.2	38.1	10.3
14	IMML140	IMDML140	22.2	24.3	22.2	38.1	10.3
15	IMML150	IMDML150	23.8	26.4	22.2	38.1	10.3
16	IMML160	IMDML160	24.6	26.4	22.2	38.1	11.9
17	IMML170	IMDML170	25.4	26.7	22.2	38.1	12.7
18	IMML180	IMDML180	26.7	26.7	19.1	38.1	12.7
19	IMML190	IMDML190	28.3	28.3	21.3	38.1	12.7
20	IMML200	IMDML200	29.9	29.9	21.1	38.1	14.2
21	IMML210	IMDML210	31.5	31.5	21.0	38.1	14.2
22	IMML220	IMDML220	33.3	33.3	21.4	38.1	15.9
23	IMML230	IMDML230	34.1	34.1	27.8	44.5	15.9
24	IMML240	IMDML240	34.9	34.9	27.8	44.5	15.9
25	IMML250	—	29.8	29.8	27.0	44.5	15.9
26	IMML260	—	38.1	38.1	33.3	50.8	15.9
27	IMML270	—	39.4	39.4	27.1	50.8	20.3
29	IMML290	—	41.1	41.1	33.3	50.8	21.1
30	IMML300	—	42.7	42.7	32.1	50.8	21.6
32	IMML320	—	45.8	45.8	32.1	50.8	22.4
34	IMML340	—	47.6	42.9	40.5	52.4	22.4
36	IMML360	—	50.5	45.8	40.5	57.2	22.4
46	IMML460	—	64.8	47.6	50.3	69.9	29.7

6-Point Sets:

323IMMYLM Metric 6-Point Shallow Set. IMML100 thru IMML460 (except IMML340) (23 pcs) (10 to 46mm) on two A270 Socket Rails and Clips.

315IMMYLM Metric 6-Point Shallow Set. IMML100 thru IMML240 (15 pcs) (10 to 24mm) on A270 Socket Rail and Clips.

310IMMYLM Metric 6-Point Shallow Set. IMML100 thru IMML190 (10 pcs) (10 to 19mm) on A269 Socket Rail and Clips.

12-Point Set:

315IMDMLM Metric 12-Point Shallow Set. IMDML100 thru IMDML240 (15 pcs) (10 to 24mm) on A270 Socket Rail and Clips.

Shallow Thin Wall

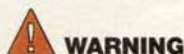
mm	6	A	B	C	D	E
3/8	IMFS120	19/32	7/8	3/8	1 1/2	7/32
7/16	IMFS140	11/16	7/8	9/16	1 1/2	11/32
1/2	IMFS160	3/4	7/8	5/8	1 1/2	3/8
9/16	IMFS180	13/16	7/8	11/16	1 1/2	13/32
5/8	IMFS200	29/32	29/32	3/4	1 1/2	15/32
11/16	IMFS220	1	1	13/16	1 1/2	1/2
3/4	IMFS240	1 1/16	1 1/16	13/16	1 1/2	1/2
13/16	IMFS260	1 1/8	1 1/8	25/32	1 1/2	1/2
7/8	IMFS280	1 7/32	1 7/32	29/32	1 5/8	9/16
15/16	IMFS300	1 5/16	1 5/16	1 3/16	2	3/4
1	IMFS320	1 3/8	1 3/8	1 3/16	2	3/4
1 1/16	IMFS340	1 7/16	1 7/16	1 1/4	2	13/16
1 1/8	IMFS360	1 1/2	1 1/2	1 1/4	2	13/16
1 3/16	IMFS380	1 5/8	1 5/8	1 1/4	2 1/16	13/16
1 1/4	IMFS400	1 11/16	1 11/16	1 1/4	2 1/16	13/16
1 3/8	IMFS420	1 3/4	1 3/4	1 1/4	2 1/16	13/16
1 7/8	IMFS440	1 13/16	1 13/16	1 1/4	2 1/16	13/16
1 1/2	IMFS460	1 29/32	1 29/32	1 3/8	2 1/16	13/16
1 1/2	IMFS480	2	2	1 3/8	2 1/16	13/16

319IMFSY 6-Point Shallow Set. IMFS120 thru IMFS480 (19 pcs) (3/8" to 1 1/2") on two A270 Socket Rails and Clips.

311IMFSY 6-Point Shallow Set. IMFS120 thru IMFS320 (11 pcs) (3/8" to 1") on A267 Socket Rail and Clips.



311IMFSY



WARNING

- Do not use power tools or accessories with impact drivers.
- Read additional safety precautions on pages M1 to M4.



1/2" Drive *FLANK DRIVE*® Impact Sockets

Deep

11	6	A	B	C	D	E
3/8	SIMLM120	19/32	29/32	2 5/8	3 1/4	9/16
7/16	SIMLM140	23/32	29/32	2 5/8	3 1/4	11/32
1/2	SIMLM160	13/16	29/32	2 5/8	3 1/4	3/8
9/16	SIMLM180	7/8	29/32	2 5/8	3 1/4	13/32
5/8	SIMLM200	31/32	29/32	2 5/8	3 1/4	15/32
11/16	SIMLM220	1 1/16	1 1/16	2 5/8	3 1/4	1/2
3/4	SIMLM240	1 1/8	1 1/8	2 5/8	3 1/4	9/16
13/16	SIMLM260	1 1/4	1 1/4	2 5/8	3 1/4	19/32
7/8	SIMLM280	1 5/16	1 5/16	2 3/32	3 1/2	9/16
15/16	SIMLM300	1 3/8	1 3/8	2 3/32	3 1/2	3/4
1	SIMLM320	1 7/16	1 7/16	2 5/8	3 1/2	3/4
1 1/16	SIMLM340	1 9/16	1 9/16	2 11/16	3 1/2	25/32
1 1/8	SIMLM360	1 5/8	1 5/8	2 11/16	3 1/2	25/32
1 3/16	SIMLM380	1 11/16	1 1/2	2 11/16	3 1/2	25/32
1 1/4	SIMLM400	1 3/4	1 1/2	2 11/16	3 1/2	1
1 5/16	SIMLM420	1 7/8	1 1/2	2 11/16	3 1/2	15/16
1 3/8	SIMLM440	2	1 1/2	2 11/16	3 1/2	15/16
1 7/16	SIMLM460	2	1 1/2	2 21/32	3 1/2	15/16
1 1/2	SIMLM480	2 1/8	1 9/16	2 5/8	3 1/2	15/16
1 9/16	SIMLM500	2 1/4	1 5/8	2 5/8	3 1/2	15/16

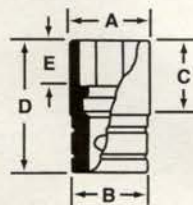
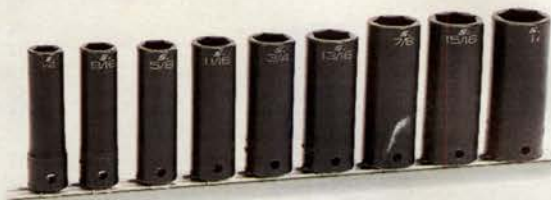
ASME/ANSI B107.2-1995

320SIMYLM 6-Point Deep Set. SIMMLM120 thru SIMMLM500 (20 pcs) (3/8" to 1 9/16") on two A270 Socket Rails and Clips.

313SIMYLM 6-Point Deep Set. SIMMLM160 thru SIMMLM400 (13 pcs) (1/2" to 1 1/4").

309SIMYLM 6-Point Deep Set. SIMMLM160 thru SIMMLM320 (9 pcs) (1/2" to 1") on A270 Socket Rail and Clips.

309SIMYLM



Deep

mm	6	A	B	C	D	E
10	SIMMLM100	15.0	23.2	66.7	82.6	7.9
11	SIMMLM110	18.2	23.2	66.7	82.6	8.7
12	SIMMLM120	19.0	23.2	66.7	82.6	9.5
13	SIMMLM130	20.6	23.2	66.7	82.6	10.3
14	SIMMLM140	22.2	23.2	66.7	82.6	10.3
15	SIMMLM150	23.8	23.8	50.0	82.6	10.3
16	SIMMLM160	24.6	24.6	50.0	82.6	11.9
17	SIMMLM170	25.1	25.1	57.9	82.6	11.2
18	SIMMLM180	26.7	26.7	61.0	82.6	12.7
19	SIMMLM190	28.3	28.3	61.0	82.6	14.2
20	SIMMLM200	29.9	29.9	61.0	82.6	14.2
21	SIMMLM210	31.5	31.5	61.0	82.6	14.2
22	SIMMLM220	33.1	33.1	71.6	88.9	15.7
23	SIMMLM230	33.1	33.1	64.3	88.9	15.9
24	SIMMLM240	34.9	34.9	63.5	88.9	15.9
25	SIMMLM250	36.5	36.5	63.5	88.9	15.9
26	SIMMLM260	34.9	33.3	50.0	88.9	19.8
27	SIMMLM270	39.4	39.4	71.0	88.9	20.3
29	SIMMLM290	41.3	41.3	71.6	88.9	21.3
30	SIMMLM300	42.9	42.9	71.1	88.9	21.6
32	SIMMLM320	45.8	45.8	71.1	88.9	22.4
33	SIMMLM330	46.0	44.5	72.8	88.9	22.4
34	SIMMLM340	49.3	44.5	72.8	88.9	22.6
35	SIMMLM350	50.8	45.8	72.8	88.9	22.9
36	SIMMLM360	50.8	45.8	72.8	88.9	22.9

324SIMMYLM Metric 6-Point Deep Set. SIMMLM100 thru SIMMLM360 (24 pcs) (10 to 36mm) on two A270 Socket Rails and Clips.

315SIMMYLM Metric 6-Point Deep Set. SIMMLM100 thru SIMMLM240 (15 pcs) (10 to 24mm) on A270 Socket Rail and Clips.

310SIMMYLM Metric 6-Point Deep Set. SIMMLM100 thru SIMMLM190 (10 pcs) (10 to 19mm) on A269 Socket Rail and Clips.

305SIMMYLM Metric 6-Point Deep Set. SIMMLM290, SIMMLM300, SIMMLM340, SIMMLM350, and SIMMLM360 (5 pcs) (29, 30, 34, 35, and 36mm) on A269 Socket Rail and Clips.

FLANK DRIVE® Impact Sockets 1/2" Drive

311SIML



Extra Deep

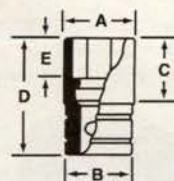
11	6	A	B	C	D	E
1/2	SIML160*	25/32	15/16	4 1/4	5	3/8
9/16	SIML180	7/8	15/16	4 1/4	5	13/32
5/8	SIML200	31/32	1	4 1/4	5	19/32
11/16	SIML220	1 1/16	1 1/16	4 1/4	5	1/2
3/4	SIML240	1 1/8	1 1/8	4 1/4	5	9/16
13/16	SIML260	1 1/4	1 1/4	4 1/4	5	19/32
7/8	SIML280	1 5/16	1 5/16	4 1/4	5	21/32
15/16	SIML300	1 3/8	1 3/8	4 1/4	5	23/32
1	SIML320	1 7/16	1 7/16	4 3/8	5	3/4
1 1/16	SIML340	1 9/16	1 9/16	4 3/8	5	25/32
1 1/8	SIML360	1 5/8	1 5/8	4 3/8	5	27/32

ASME/ANSI B107.2-1995

*Use for removing or replacing fuel tank retaining strap nuts. Also has applications on emergency brake adjustment nuts and stabilizer retainers.

311SIML 6-Point Extra Deep Set.

SIML160 thru SIML360 (11 pcs) (1/2" to 1 1/8").



Extra Deep

mm	6	A	B	C	D	E
12	SIMML120	18.9	24.3	91.4	127	9.7
13	SIMML130	19.8	24.3	91.4	127	10.4
15	SIMML150	23.2	26.4	91.4	127	10.7



304IPLY



Shallow Swivel

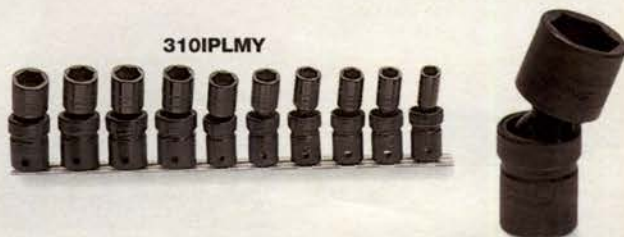
11	6	A	B	D	E
1/2	IPL16B	3/4	15/16	2 29/32	11/32
9/16	IPL18B	13/16	15/16	2 29/32	11/32
5/8	IPL20B	7/8	15/16	2 29/32	11/32
11/16	IPL22B	31/32	1 3/16	3 1/16	13/32
3/4	IPL24B	1 1/32	1 3/16	3 1/16	7/16
13/16	IPL26B	1 1/8	1 3/16	3 1/16	1/2
7/8	IPL28B	1 3/16	1 3/16	3 1/16	9/16
15/16	IPL30B	1 9/32	1 3/16	3 1/16	5/8
1	IPL32B	1 11/32	1 3/16	3 1/16	11/16
1 1/16	IPL34B	1 7/16	1 3/16	3 5/32	11/16
1 1/8	IPL36B	1 1/2	1 3/16	3 11/32	3/4
1 3/16	IPL38B	1 9/16	1 3/16	3 11/32	3/4
1 1/4	IPL40B	1 5/8	1 3/16	3 13/32	13/16
1 5/16	IPL42B	1 3/4	1 3/16	3 13/32	7/8

314IPLY 6-Point Shallow Set. IPL16B thru IPL42B (14 pcs) (1/2" to 1 5/16") on A270 Socket Rail and Clips.

305IPLY 6-Point Shallow Set. IPL16B thru IPL24B (5 pcs) (1/2" to 3/4") on A265 Socket Rail and Clips.

304IPLY 6-Point Shallow Set. IPL26B thru IPL32B (4 pcs) (13/16" to 1") on A265 Socket Rail and Clips.

310IPLMY



Shallow Swivel

mm	6	A	B	D	E
10	IPLM10B	15.6	23.8	73.7	9.7
11	IPLM11B	17.8	23.8	73.7	9.7
12	IPLM12B	18.9	23.8	73.7	9.7
13	IPLM13B	19.7	23.8	73.7	8.6
14	IPLM14B	21.3	23.8	73.7	8.6
15	IPLM15B	22.6	23.8	73.7	8.6
16	IPLM16B	24.1	30.2	77.8	10.4
17	IPLM17B	25.6	30.2	77.7	10.4
18	IPLM18B	26.7	30.2	77.7	10.4
19	IPLM19B	28.3	30.2	77.7	11.2
21	IPLM21B	31.5	30.2	77.7	12.7
22	IPLM22B	33.1	30.2	77.8	14.2
24	IPLM24B	34.8	30.2	81.0	15.0

310IPLMY Metric 6-Point Shallow Set. IPLM10B thru IPLM19B (10 pcs) (10 to 19mm) on A270 Socket Rail and Clips.

Deep Swivel

11	6	A	B	D	E
1/2	SIP16	3/4	1 3/16	3 23/32	11/32
9/16	SIP18	13/16	1 3/16	3 13/16	11/32
5/8	SIP20	7/8	1 3/16	3 15/16	11/32
11/16	SIP22	31/32	1 3/16	4 5/32	13/32
3/4	SIP24	1 1/32	1 3/16	4 1/4	7/16

305SIPY 6-Point Deep Set. SIP16 thru SIP24 (5 pcs) (1/2" to 3/4") on A265 Socket Rail and Clips.



305SIPY



WARNING

- Do not use power tools or accessories with impact drivers.
- Do not hold swivel joint tools during use.
- Read additional safety precautions on pages M1 to M4.



1/2 Drive

Quickly and easily remove damaged or rounded nuts and bolts. Simply place socket on fastener and turn with 1/2" drive handle or impact gun. Grip on fastener tightens as more torque is applied. No hammering required to install socket over



Shallow Twist

		A	B	C	D
3/4"	TTWY241A	1 1/32"	1"	1"	1 5/8"
13/16"	TTWY261A	1 1/8"	1"	1"	1 5/8"
7/8"	TTWY281A	1 3/16"	1 1/16"	1"	1 5/8"
15/16"	TTWY301A	1 1/4"	1 3/16"	1"	1 5/8"
1"	TTWY321A	1 5/16"	1 1/4"	1"	1 5/8"

305TTWYA Shallow Twist Set. TTWY241A thru TTWY321A (5 pcs) (3/4" to 1") on socket rail and clips.

Impact Sockets / Special Purpose

fastener. Use on fasteners up to 1". Applications include oil pan drain plugs, exhaust manifold nuts, studs, pipe nipples and corroded marine fasteners.

305STTWY



Deep Twist

		A	B	C	D
3/4"	STTWY241	1 1/16"	1 1/16"	2 7/16"	3 1/4"
3/4"	STTWY261	1 1/8"	1 1/8"	2 7/16"	3 1/4"
3/4"	STTWY281	1 3/16"	1 3/16"	2 9/16"	3 1/4"
3/4"	STTWY301	1 5/16"	1 5/16"	2 9/16"	3 1/4"
3/4"	STTWY321	1 11/32"	1 11/32"	2 9/16"	3 1/4"

305STTWY Deep Twist Set. STTWY241 thru STTWY321 (5 pcs) (3/4" to 1") on socket rail and clips.

Impact Accessories

PIT3120EB



PIT160 Impact Driver.

This 1/2" drive unit delivers cam action impact when struck with a hammer. U.S. Fed. Spec. GGG-W-641E.

PIT3120EB Impact Driver Set.

PIT160 Impact Driver plus sockets and socket drivers (12 pcs) in KRA142 Metal Box.

PIT160	Impact Driver
SA10E	5/16" Hex Head Driver
SA12E	3/8" Hex Head Driver
SA14E	7/16" Hex Head Driver
SA16E	1/2" Hex Head Driver
SA18E	9/16" Hex Head Driver

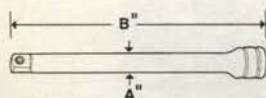
SA20E	5/8" Hex Head Driver
SP32E	#3 PHILLIPS® Driver
SP42E	#3 PHILLIPS® Driver
SW28E	7/16" x .050" Socket Driver
SW32E	1/2" x .075" Socket Driver
KRA142	Metal Box

Shackle Pin Sockets

Designed with an oval configuration to service shackle pins on International Harvester and Kenworth semi-trucks.

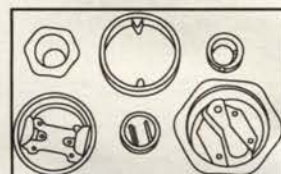
SPS10 41/64" x 1 3/32". 1 3/4" long.

SPS11 21/32" x 1 17/32". 1 3/4" long.



Extensions (Snap Ring Retention)

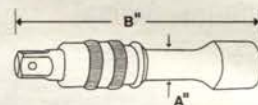
	A	B
IMX32B	5/8"	3"
IMX52	2 1/32"	5 3/32"
IMX112	2 1/32"	11 1/4"



A172A fits all these drum plugs and more.

Drum Plug Socket

A172A One socket removes virtually all screw-in drum plugs or caps large or small. Spring loaded inner wrench handles smaller plugs and recesses automatically when removing large plugs. Use with a 1/2" drive ratchet or impact wrench.

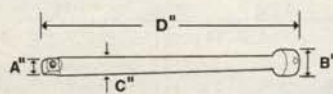


Extensions (Locking)

Ideal for use on transmission bellhousing bolts, transaxle and suspension service. Pull-back collar for fast and easy attachment and removal of sockets. Knurled release collar also provides for easy one-hand operation.

	A	B
IMXL32	5/8"	3 1/2"
IMXL52	5/8"	5"
IMXL102	5/8"	10"

303IMXL Locking Impact Extension Set. IMXL32, IMXL52 and IMXL102 (3 pcs) (3 1/2", 5", 10") in a plastic tray.



Extension Adaptor (Snap Ring Retention)

	A	B	C	D
IMXA42	3/8"	1/2"	1/2"	4"



Universal Joint

Locking Mechanism Male with lock button; Female with lock button hole.

	A	B
IP80C	1 3/16"	2 1/2"



General Service Sets

434HDB



434HDB 12-Point General Service (Tools with Metal Box).

35 Tools Include:

426LDH	12-Point Shallow Socket Set	L872	Ratchet Head
L32	3" Extension	L872H	19 1/4" Handle
L62	8" Extension	L82A	Universal Joint
L122	16" Extension	L112E	Breaker Bar Head
L52B	Sliding Head	L672B	Ratchet Adaptor
		KRA226A	Metal Box

414AHD 12-Point General Service (Tools with Plastic Tray)

12 Tools Include:

12-Point Shallow Sockets:

LDH342	1 1/16"	LDH462	1 7/16"	L62	8" Extension
LDH362	1 1/8"	LDH482	1 1/2"	L122	16" Extension
LDH402	1 1/4"	LDH522	1 5/8"	L872	Ratchet Head
LDH422A	1 9/16"	LDH562	1 3/4"	L872H	19 1/4" Handle
LDH442	1 3/8"	LDH602	1 7/8"	L112E	Breaker Bar Head

also includes:

433GHDB 12-Point General Service (Industrial Finish with Metal Box)

35 Tools Include:

425GLDH	12-Point Shallow Socket Set	GL872H	19 1/4" Handle
GL32	3" Extension	GL82A	Universal Joint
GL62	8" Extension	GL112E	Breaker Bar Head
GL122	16" Extension	GL672B	Ratchet Adaptor
GL52B	Sliding Head	KRA226A	Metal Box
GL872	Ratchet Head		

414GHDB 12-Point General Service (Industrial Finish with Metal Box)

15 Tools Include:

12-Point Shallow Sockets:

GLDH342	1 1/16"	GLDH462	1 7/16"	GL62	8" Extension
GLDH362	1 1/8"	GLDH482	1 1/2"	GL122	16" Extension
GLDH402	1 1/4"	GLDH522	1 5/8"	GL872	Ratchet Head
GLDH422A	1 9/16"	GLDH562	1 3/4"	GL872H	19 1/4" Handle
GLDH442	1 3/8"	GLDH602	1 7/8"	GL112E	Breaker Bar Head

also includes:

KRA226A	Metal Box
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Ratchet Heads and Handles

L872

15/16" Handle Opening (Large)



L712T

13/16" Handle Opening (Small)



Ratchet Heads

				A	B	C	
L872	GL872	Sealed	32	11°	1 1/4	2 1/2	5 15/16
L712T	—	Quick Release	32	12°	1 1/8	2 9/16	5 27/32

L872H

L872RJ

L872RM

L72ARL

Handles

			A	B	C
L872H	GL872H	Plain w/locking button	13/16 - 15/16	19 1/4	
L872RM	GL872RM	Knurled	15/16	36	
L872RJ	GL872RJ	Knurled	15/16	19 1/4	
L72ARL	GL72ARL	Knurled	15/16	30	

Head and Handle Combinations

	Heads using 13/16" (small) diameter handle holes					Heads using 15/16" (large) diameter handle holes		
	L712T Ratchet Head	L112E Breaker Bar	GL112E Breaker Bar	L52B Sliding-T	GL52B Sliding-T	L872 Ratchet Head	GL872 Ratchet Head	L8112 Breaker Bar
Short 19 1/4" Handle (Lock Button Both Ends) (Fits all Ratchet Heads listed above)	L872H	L872H	GL872H	L872H	GL872H	L872H	GL872H	L872RJ
Short 19 1/4" Handle (Lock Button End/Knurled End)	—	—	—	—	—	L872RJ	GL872RJ	L872H
Long 30" Handle (Lock Button/Knurled End)	L72ARL	L72ARL	GL72ARL	L72ARL	GL72ARL	—	—	—
Long 36" Handle (Lock Button End/Knurled End)	—	—	—	—	—	L872RM	GL872RM	L872RM

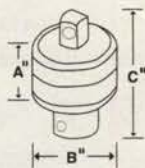


WARNING

- Frequently inspect, clean, and lubricate all non-sealed ratchet mechanisms with light oil.
- Do not replace worn parts individually; use entire contents of the service kit.
- Read additional safety precautions on page M1 to M4



3/4" Drive Socket / Ratchet Accessories



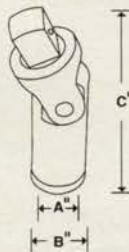
Ratchet Adaptors

				A	B	C		
L672B	GL672B	44	8°	3/4	2 1/2	3 15/16	RKR881B	RKR880A

Breaker Bar Heads

Refer to Head and Handle chart on page 133 for handle specifications.

		A	B	C
L112E	GL112E	1 3/16	1 9/16	3 43/64
L8112	—	1 5/16	1 9/16	3 11/16



Sliding T-handles

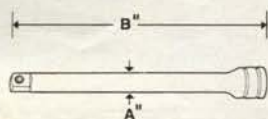
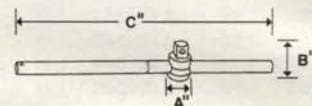
Designed for heavier applications. Can be used as a T-handle or as an offset wrench.

Spring and friction ball holds head in position.

Refer to Head and Handle chart on page 133 for handle specifications.

	C		C			A	B
L52BH	19 1/4	GL52BH	20 7/16	L52B	GL52B	1 1/2	2 5/16

ASME/ANSI B107.10M-1996



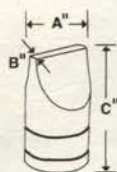
Universal Joints

		A	B
L82A	GL82A	19 9/16	3 7/8



Extensions-Locking Button

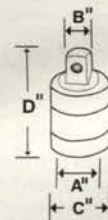
A			B
3	L32	GL32	1 9/16
5	L42	GL42	1 9/16
8	L62	GL62	1 9/16
16	L122	GL122	1 9/16



Adaptors

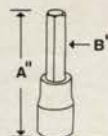
	A	B	C	D
GLA12B	1/2	3/4	1 1/8	1 7/8
GLA62A	3/4	1/2	—	3
GLA72A	3/4	1	1 7/16	2 5/8
GLA124A	1	3/4	1 13/16	2 3/4

ASME/ANSI B107.10M-1996



Drag Link Sockets

	B x A	A	C
GLD138	1 3/4 x 1 3/8	1 3/8	2 3/16
GLD139	1 1/4 x 1 11/16	1 11/16	2 3/16



Hex Socket Drivers

	A	B
LAW118E	3 9/16	SA18E2
LAW120E	3 3/4	LAW120E2
LAW124E	4 3/8	LAW124E2

FLANK DRIVE® Sockets 3/4" Drive

*All 3/4" drive chrome sockets feature LOXOCKET® attachment.
Socket has unique button to disengage from a standard locking button square drive.*

Shallow Dimensions in parentheses apply to industrial finish only.

11	12	12	A	B	C	D	E
3/4	LDH242	GLDH242	1 1/8	1 7/16	1 1/4	2	1 5/32
13/16	LDH262	GLDH262	1 7/32	1 7/16	1 1/4	2	1 1/16
7/8	LDH282	GLDH282	1 5/16	1 7/16	1 1/4	2	1 1/16
15/16	LDH302	GLDH302	1 3/8	1 7/16	1 1/4	2	23/32
31/32	LDH312	—	1 13/32	1 7/16	1 1/4	2	23/32
1	LDH322	GLDH322	1 15/32	1 1/2	1 5/16	2 1/16	3/4
1 1/16	LDH342	GLDH342	1 9/16	1 1/2	1 3/8 (1 5/16)	2 1/8	3/4
1 1/8	LDH362	GLDH362	1 5/8	1 1/2	1 7/16 (1 3/8)	2 3/16	13/16
1 3/16	LDH382	GLDH382	1 11/16	1 1/2	1 1/2 (1 7/16)	2 1/4	7/8
1 1/4	LDH402	GLDH402	1 3/4	1 1/2	1 1/2 (1 7/16)	2 1/4	15/16 (7/8)
1 5/16	LDH422A	GLDH422A	1 7/8	1 5/8	1 9/16 (1 3/8)	2 15/16	7/8
1 3/8	LDH442	GLDH442	1 15/16	1 5/8	1 9/16 (1 3/8)	2 15/16	7/8
1 7/16	LDH462	GLDH462	2	1 5/8	1 5/8 (1 7/16)	2 3/8	15/16
1 1/2	LDH482	GLDH482	2 1/8	1 5/8	1 11/16 (1 9/16)	2 1/2	1 1/16 (1)
1 9/16	LDH502	GLDH502	2 3/16	1 3/4	1 7/8 (1 11/16)	2 9/8	1 5/32
1 5/8	LDH522	GLDH522	2 1/4	1 3/4	1 7/8 (1 11/16)	2 9/8	1 5/32
1 11/16	LDH542	GLDH542	2 3/8	1 3/4	2	2 3/4	1 3/16
1 3/4	LDH562	GLDH562	2 7/16	1 3/4	2	2 3/4	1 3/16
1 13/16	LDH582	GLDH582	2 1/2	1 3/4	2 1/8 (1 15/16)	2 7/8	1 1/4
1 7/8	LDH602	GLDH602	2 9/16	1 3/4	2 1/4 (2 1/16)	3	1 5/16
2	LDH642	GLDH642	2 3/4	1 3/4	2 3/8 (2 3/16)	3 1/8	1 3/8
2 1/16	LDH662	GLDH662	2 15/16	1 3/4	2 3/8	3 1/8	1 3/8
2 1/8	LDH682	GLDH682	2 15/16	1 3/4	2 1/2 (2 5/16)	3 1/4	1 7/16
2 3/16	LDH702	GLDH702	2 15/16	1 3/4	2 1/2 (2 5/16)	3 1/4	1 1/2
2 1/4	LDH722	GLDH722	3 1/8	1 3/4	2 5/8 (2 7/16)	3 3/8	1 1/2
2 3/8	LDH762	GLDH762	3 1/4	1 3/4	2 7/8 (2 1/8)	3 3/8	1 3/4

ASME/ANSI B107.1-1993

Chrome Sets:

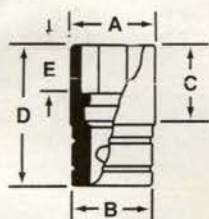
426LDH 12-Point Shallow Set. LDH242 thru LDH762 (26 pcs).

426LDHY 12-Point Shallow Set. LDH242 thru LDH762 (26 pcs) (3/4" to 2 3/8") on two A268 Socket Rails and Clips.

Industrial Finish Sets:

425GLDH 12-Point Shallow Set. GLDH242 thru GLDH762 (25 pcs) (3/4" to 2 3/8").

411GLDHY 12-Point Shallow Set. GLDH282 thru GLDH482 (11 pcs) (7/8" to 1 1/2") on A266 Socket Rail and Clips.



413LDHMY



Shallow

mm	12	A	B	C	D	E
22	LDHM222	31.1	34.6	30.2	50.8	17.1
24	LDHM242	33.4	34.6	31.8	50.8	17.9
27	LDHM272	37.3	34.6	31.8	54.0	19.9
30	LDHM302	41.0	39.8	34.0	57.2	21.8
32	LDHM322	44.2	43.0	33.5	57.2	21.8
35	LDHM352	49.3	41.2	35.1	58.7	22.4
36	LDHM362	49.3	41.2	35.1	58.7	22.1
38	LDHM382	52.3	44.2	39.9	63.5	24.9
41	LDHM412	55.1	44.5	42.9	66.5	26.7
46	LDHM462	61.5	44.5	49.5	73.2	29.7
50	LDHM502	66.5	44.5	47.8	76.2	33.1
54	LDHM542	76.7	44.5	55.6	82.6	36.6
55	LDHM552	73.2	44.5	52.8	82.6	36.8

413LDHMY Metric 12-Point Shallow Set. LDHM222 thru LDHM552 (13 pcs) (22 to 55mm) on two A270 Socket Rails and Clips.






WARNING

- Do not use chrome or industrial finish hand tools with power drivers.
- Frequently inspect, clean, and lubricate all non-sealed ratchet mechanisms with light oil.
- Do not replace worn parts individually; use entire contents of the service kit.
- Read additional safety precautions on page M1 to M4



3/4" Drive

Deep Dimensions in parentheses apply to industrial finish only.

			A	B	C	D	E
							
7/8	LS282	—	1 5/16	1 7/16	2 3/4	3 1/2	3/4
1 5/16	LS302	GLS302	1 3/8	1 7/16	2 3/4	3 1/2	7/8
1	LS322	GLS322	1 1/16	1 1/2	2 3/4	3 1/2	1
1 1/16	LS342	GLS342	1 9/16	1 1/2	2 3/4	3 1/2	1
1 1/8	LS362	GLS362	1 5/8	1 1/2	2 3/4	3 1/2	1
1 1/4	LS402	GLS402	1 3/4	1 1/2	2 3/4	3 1/2	1 3/16
1 5/16	LS422A	GLS422	1 7/8	1 5/8	2 3/4	3 1/2	1
1 3/8	LS442	GLS442	1 9/16	1 5/8	2 9/16	3 1/2	1
1 7/16	LS462	GLS462	2	1 5/8	2 3/4 (2 9/16)	3 1/2	1 3/8 (1)
1 1/2	LS482	GLS482	2 1/8 (2 1/16)	1 5/8	2 3/4 (2 9/16)	3 1/2	1 3/8 (1 1/4)
1 5/8	LS522	GLS522	2 1/4	1 3/4	2 3/4 (2 9/16)	3 1/2	1 3/8




411LSY 6-point Deep Set. LS282 thru LS522 (11 pcs) (7/8" to 1 5/8") on A266 Socket Rail and Clips.

FLANK DRIVE® Sockets



FLANK DRIVE® Impact Sockets

Shallow

			A	B	C	D	E
							
9/16	IM182A	—	1	1 5/8	1	1 3/4	7/16
5/8	IM202A	IMD202A	1 3/32	1 5/8	1	1 3/4	1/2
11/16	IM222A	IMD222A	1 5/32	1 5/8	1	1 3/4	9/16
3/4	IM242A	IMD242A	1 1/4	1 5/8	1	1 3/4	5/8
13/16	IM262A	IMD262A	1 3/8	1 5/8	1 1/8	1 7/8	5/8
7/8	IM282A	IMD282A	1 1/2	1 5/8	1 1/8	1 7/8	5/8
15/16	IM302A	IMD302A	1 9/16	1 5/8	1 1/8	1 7/8	3/4
1	IM322A	IMD322A	1 5/8	1 5/8	1 1/4	2	3/4
1 1/16	IM342A	—	1 11/16	1 5/8	1 1/4	2	3/4
1 1/8	IM362	IMD362	1 7/8	1 5/8	1 3/8	2 1/8	3/4
1 3/16	IM382	—	1 7/8	1 5/8	1 9/16	2 1/8	3/4
1 1/4	IM402	IMD402	2	1 3/4	1 3/8	2 1/8	13/16
1 5/16	IM422	—	2 1/8	1 3/4	1 1/2	2 1/4	7/8
1 3/8	IM442	IMD442	2 1/8	1 3/4	1 1/2	2 1/4	7/8
1 7/16	IM462	—	2 1/4	1 3/4	1 1/2	2 1/4	7/8
1 1/2	IM482	IMD482	2 1/4	1 3/4	1 1/2	2 1/4	15/16
1 9/16	IM502	—	2 7/16	1 3/4	1 9/16	2 3/8	15/16
1 5/8	IM522	IMD522	2 7/16	1 3/4	1 5/8	2 3/8	7/8
1 11/16	IM542	—	2 1/2	1 3/4	1 13/16	2 9/16	1
1 3/4	IM562	IMD562	2 1/2	1 3/4	1 13/16	2 9/16	1
1 13/16	IM582	—	2 5/8	1 3/4	1 5/8	2 5/8	1 1/4
1 7/8	IM602	—	2 5/8	1 3/4	1 3/4	2 3/4	1 1/8
2	IM642A	—	2 7/8	1 3/4	1 15/16	2 7/8	1 1/8
2 1/16	IM662A	—	3	1 3/4	1 7/8	2 7/8	1 3/16
2 3/16	IM702A	—	3 1/4	1 3/4	2 3/16	3 3/16	1 5/16
2 1/4	IM722A	—	3 1/4	1 3/4	2 3/16	3 3/16	1 3/8
2 3/8	IM762A	—	3 1/2	1 3/4	2 3/8	3 1/2	1 7/16

6-Point Sets:



427IMY 6-Point Shallow Set. IM182A thru IM762A (27 pcs) (9/16" to 2 3/8") on two A266 Socket Rails and Clips.

413IMYA 6-Point Shallow Set. IM182A thru IM422 (13 pcs) (9/16" to 1 1/16") on two A267 Socket Rails and Clips.

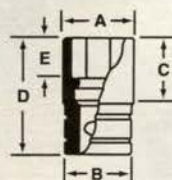
12-Point Set:

413IMDY 12-Point Shallow Set. IMD202A thru IMD562 (13 pcs) (5/8" to 1 3/4") on two A267 Socket Rails and Clips.

Shallow

mm		A	B	C	D	E
						
17	IMM172A	29.4	41.3	25.4	44.5	14.3
19	IMM192A	31.8	41.1	19.1	44.5	14.2
20	IMM202A	32.5	41.3	25.4	44.5	14.3
22	IMM222A	36.5	41.3	28.6	47.6	15.8
24	IMM242A	39.7	41.3	28.6	47.6	15.8
27	IMM272A	42.9	41.3	27.2	50.8	17.5
30	IMM302	47.0	41.3	24.9	53.3	19.1
31	IMM312	49.2	41.3	30.2	53.8	19.1
32	IMM322	50.8	44.5	30.2	53.8	20.6
34	IMM342	50.8	44.5	30.2	53.8	22.4
35	IMM352	54.0	44.5	33.5	57.2	22.4
36	IMM362	54.0	44.5	31.8	57.2	22.4
38	IMM382	57.2	44.5	33.5	57.2	23.9
40	IMM402	60.3	44.5	41.3	66.5	28.4
46	IMM462	65.9	44.5	42.9	66.5	29.0

415IMMY Metric 6-point Shallow Set. IMM172A thru IMM462 (15 pcs) (17 to 46mm) on two A270 Socket Rails and Clips.



415IMMY



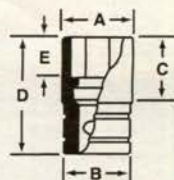
FLANK DRIVE® Sockets 3/4" Drive

Shallow Thin Wall Dimensions in parentheses apply to 12-point sockets only.

11	6	12	A	B	C	D	E
3/4	—	IMFD242	1 1/8	1 1/2	1 3/8	2 1/8	5/8
13/16	—	IMFD262	1 3/16	1 1/2	1 3/8	2 1/8	11/16
7/8	IMFS282	IMFD282	1 3/8 (1 5/16)	1 1/2	1 1/16 (1 3/8)	2 (2 1/8)	5/8 (3/4)
15/16	IMFS302	IMFD302	1 15/32 (1 3/8)	1 1/2	1 1/16 (1 1/4)	2 (2 3/16)	5/8 (13/16)
1	IMFS322	—	1 1/2	1 1/2	1 1/16	2 1/8	11/16
1 1/16	IMFS342	—	1 9/16	1 9/16	3/4	2 1/8	11/16
1 1/8	IMFS362	—	1 11/16	1 11/16	13/16	2 1/4	3/4
1 3/16	IMFS382	—	1 3/4	1 3/4	7/8	2 1/4	3/4
1 1/4	IMFS402	—	1 13/16	1 3/4	7/8	2 1/4	13/16
1 5/16	IMFS422	—	1 7/8	1 3/4	31/32	2 1/4	7/8
1 3/8	IMFS442	—	2	1 3/4	31/32	2 1/4	7/8
1 7/16	IMFS462	—	2 1/16	1 3/4	1 1/16	2 3/8	7/8
1 1/2	IMFS482	—	2 1/16	1 3/4	1 3/32	2 3/8	15/16
1 9/16	IMFS502	—	2 11/64	1 3/4	1 5/8	2 9/16	15/16
1 5/8	IMFS522	—	2 15/64	1 3/4	1 13/16	2 3/4	1 1/16
1 11/16	IMFS542	—	2 23/64	1 3/4	1 13/16	2 3/4	1 1/16
1 3/4	IMFS562	—	2 21/64	1 3/4	2 1/16	3	1 1/8
1 13/16	IMFS582	—	2 31/64	1 3/4	2 1/16	3	1 11/64
1 7/8	IMFS602	—	2 39/64	1 3/4	2 1/16	3	1 11/64
2	IMFS642	—	2 47/64	1 3/4	2 3/16	3 1/8	1 17/64
2 1/16	IMFS662	—	2 51/64	1 3/4	2 3/16	3 1/8	1 17/64
2 3/16	IMFS702	—	2 63/64	1 3/4	2 29/64	3 3/8	1 27/64
2 1/4	IMFS722	—	3 1/64	1 3/4	2 29/64	3 3/8	1 27/64
2 3/8	IMFS762	—	3 15/64	1 3/4	2 9/16	3 1/2	1 27/64

Larger sizes available on special order.

422IMFSY 6-point Shallow Set. IMFS282 thru IMFS762 (22 pcs) (7/8" to 2 3/8") on two A266 Socket Rails and Clips.



413SIMY



420SIMY



Deep

11	6	A	B	C	D	E
3/4	SIM242	1 1/4	1 5/8	2	3	9/16
13/16	SIM262	1 3/8	1 5/8	2	3	5/8
7/8	SIM282	1 1/2	1 5/8	2	3	5/8
15/16	SIM302	1 5/8	1 5/8	2	3	5/8
1	SIM322	1 5/8	1 5/8	2	3	11/16
1 1/16	SIM342	1 3/4	1 5/8	2	3	11/16
1 1/8	SIM362	1 3/4	1 5/8	2	3	3/4
1 3/16	SIM382	2	1 3/4	2 1/4	3 1/4	3/4
1 1/4	SIM402	2	1 3/4	2 1/4	3 1/4	7/8
1 5/16	SIM422	2 1/8	1 3/4	2 9/16	3 1/4	7/8
1 3/8	SIM442	2 1/8	1 3/4	2 1/4	3 1/4	7/8
1 7/16	SIM462	2 3/16	1 3/4	2 1/2	3 1/2	7/8
1 1/2	SIM482	2 1/4	1 3/4	2 1/2	3 1/2	15/16
1 9/16	SIM502	2 5/16	1 3/4	2 1/2	3 1/2	15/16
1 5/8	SIM522	2 7/16	1 3/4	2 1/2	3 1/2	15/16
1 11/16	SIM542	2 1/2	1 3/4	2 1/2	3 1/2	1
1 3/4	SIM562	2 1/2	1 3/4	2 1/2	3 1/2	1
1 13/16	SIM582	2 5/8	1 3/4	2 3/4	3 3/4	1 1/16
1 7/8	SIM602	2 11/16	1 3/4	2 3/4	3 3/4	1 1/8
2	SIM642A	2 13/16	1 3/4	2 3/4	3 3/4	1 1/8

Larger sizes available on special order.

420SIMY 6-point Deep Set. SIM242 thru SIM642A (20 pcs) (3/4" to 2") on two A266 Socket Rails with Clips.

413SIMY 6-point Deep Set. SIM242 thru SIM482 (13 pcs) (3/4" to 1 1/2") on two A267 Socket Rails with Clips.



WARNING

- Do not use chrome or industrial finish hand tools with power drivers.
- Read additional safety precautions on page M1 to M4



3/4" Drive

FLANK DRIVE® Impact Sockets

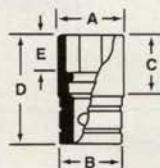
Deep

mm	6	A	B	C	D	E
19	SIMM192	31.8	41.1	52.6	76.2	14.2
24	SIMM242	41.1	41.1	52.6	76.2	15.6
27	SIMM272	44.2	41.1	52.6	76.2	17.5
30	SIMM302	50.8	44.5	57.4	81.0	19.1
32	SIMM322	49.2	44.5	58.9	82.6	22.4
33	SIMM332	50.8	44.5	58.9	82.6	22.4
35	SIMM352	50.8	44.5	58.9	82.6	22.4
36	SIMM362	54.0	44.5	65.3	88.9	22.4
38	SIMM382	57.2	44.5	65.3	88.9	23.9

409SIMMY Metric 6-point Deep Set. SIMM192 thru SIMM382 (9 pcs) (10 to 38mm) on A270 Socket Rail with Clips.



409SIMMY



Shallow Double Square (Not Flank Drive®)

mm	8	A	B	C	D	E
3/4	IM624	1 5/8	1 5/8	1	1 3/4	9/16
13/16	IM626	1 5/8	1 5/8	1	1 3/4	9/16
7/8	IM628	1 3/4	1 5/8	1	1 7/8	5/8
15/16	IM630	1 13/16	1 5/8	1	1 7/8	5/8
1	IM632	2	1 3/4	1 1/4	2	3/4
1 1/16	IM634	2	1 3/4	1 1/8	2	3/4
1 1/8	IM636	2 1/4	1 3/4	1 3/8	2 1/8	7/8
1 3/16	IM638	2 1/4	1 3/4	1 13/16	2 1/8	7/8
1 1/4	IM640	2 1/2	1 3/4	1 1/2	2 1/4	15/16
1 5/16	IM642	2 1/2	1 3/4	1 1/2	2 1/4	15/16

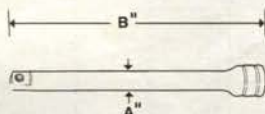
Larger sizes available on special order.

Shallow Crawler Track Bolt

High-strength steel and greater hardness to withstand impact use on track bolts. IMT242 through IMT302 feature tapered nose design. See 1" drive Track Bolt Sockets (page 142).

mm	6	A	B	C	D	E
3/4	IMT242	1 1/4	1 5/8	1	1 7/8	9/16
13/16	IMT262	1 7/16	1 5/8	1 1/8	2	5/8
15/16	IMT302	1 9/16	1 5/8	1 1/8	2	5/8
1	IMT322	1 5/8	1 5/8	1 1/4	2	11/16
1 1/8	IMT362	1 7/8	1 5/8	1 3/8	2 1/8	3/4

Impact Accessories



Extensions

	A	B
IM132	1	3
IM62A	1	17
IM92A	1	10
IM122A	1	13



Adaptors

	A	B	C	D
IM52	3/4	5/8 with Lock Button	1 5/8	2 1/4
IM72	3/4	1 with Pin Hole	1 5/8	2 9/16
IM124B	1	3/4 with Pin Hole	2 3/8	2 13/16

Swivel Ball Universal Joint

	A	B
IP82	1 3/4	3 5/32



3/4" Locking Rings and Pins

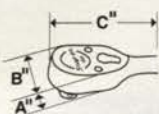
Use these for this page and sockets on pages 136 and 137 unless otherwise indicated:

Stock No.	Drive Size	Use With	Description
IM182R	3/4	Rubber Locking Ring	All 3/4" Drive Sockets/Accessories
IM182P	3/4	Steel Locking Pin	All 3/4" Drive Sockets/Accessories
IM182PP	3/4	Reinforced Plastic Locking Pin	All 3/4" Drive Sockets/Accessories
IMR2	3/4	Socket Retainer	All 3/4" Drive Sockets/Accessories

Use the following for the IM124B Adaptor:

IM243R	1	Locking Ring
IM243P	1	Steel Locking Pin
IM243PP	1	Reinforced Plastic Locking Pin

Ratchet Heads and Handles



Ratchet Head

L873	GL873	Sealed	30	12°	A	B	C	RKRQC5
					1 1/2	3 1/8	7 1/8	

Head and Handle Combinations

Stock No.	Description	Required Handle	Optional Handle Extension
L873	Ratchet Head	L53HB	L853HA1
GL873	Ratchet Head	GL53HB	GL853HA1
L113H	Breaker Bar	L53HB	-
L53A	Sliding T-handle	L53HB	-

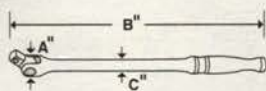
Ratchet Adaptor

L673A	44	8°	A	B	D
			2 3/32	3 1/4	5



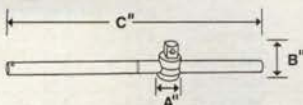
Breaker Bar

Complete Tool		Head only		Handle Stock No.
B	C	B	C	
L113H	32 5/32	L113	4 29/32	L53HB
			2 1/8	



Sliding T-Handle

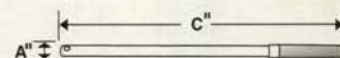
Complete Tool		Sliding Head Only		Handle Stock No.
C	A	C	A	
L53	29	L53A	2	L53HB



Handles

With Knurled Hand Grip.

L53HB	GL53HB	A	C
		1 1/8	29



Handle Extensions

Plain Handle with Locking Button. Can only be used with L53HB and GL53HB Handles. Will not connect directly to L873 and GL873 Ratchet Heads.

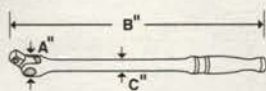
L853HA1	GL853HA1	A	C
		1 3/8	36



Socket and Ratchet Accessories

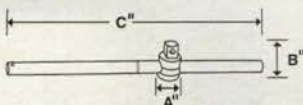
Breaker Bar

Complete Tool		Head only		Handle Stock No.
B	C	B	C	
L113H	32 5/32	L113	4 29/32	L53HB
			2 1/8	



Sliding T-Handle

Complete Tool		Sliding Head Only		Handle Stock No.
C	A	C	A	
L53	29	L53A	2	L53HB



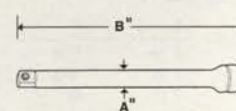
Adaptors

	A	B	D
GLA72A	3/4	1	2 5/8
GLA124A	1	3/4	2 3/4

ASME/ANSI B107.10M-1996

Extensions-Locking Button

	A	B
L63	1 1/4	8
L123	1 1/4	16



WARNING

- Frequently inspect, clean, and lubricate all non-sealed ratchet mechanisms with light oil.
- Do not replace worn parts individually; use entire contents of the service kit.
- Do not immerse sealed ratchet in fluids.
- Do not use chrome or industrial finish hand tools with power drivers.

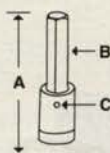


1" Drive Socket and Ratchet Accessories

Socket Drivers

Hex

Hex		A	B	C
7/8	IMA283	5 5/8	IMA238-2	ME2C1
1	IMA323	5 5/8	IMA323-2	ME2C1
1 1/8	IMA363	4 1/4	IMA363-2	ME2C1
1 1/4	IMA403	4 3/8	IMA403-2	ME2C1
1 3/8	IMA443	4 1/2	IMA443-2	ME2C1



FLANK DRIVE® Sockets



Shallow

Hex	12	A	B	C	D	E
1 7/16	LDH463	2 3/16	2	1 1/2	2 5/8	1
1 1/2	LDH483	2 1/4	2	1 5/8	2 3/4	1
1 5/8	LDH523	2 3/8	2	1 3/4	2 7/8	1 1/8
1 11/16	LDH543	2 1/2	2	1 7/8	3	1 3/16
1 3/4	LDH563	2 9/16	2	1 7/8	3	1 1/4
1 13/16	LDH583	2 5/8	2 1/8	2	3 1/8	1 1/4
1 7/8	LDH603	2 3/4	2 1/8	2 1/8	3 1/4	1 7/16
2	LDH643	2 15/16	2 1/8	2 1/4	3 1/8	1 1/2
2 1/8	LDH683	3 1/8	2 1/4	2 3/8	3 1/2	1 7/16
2 3/16	LDH703	3 1/8	2 1/4	2 1/2	3 5/8	1 9/16
2 1/4	LDH723	3 1/4	2 1/4	2 5/8	3 3/4	1 5/8

Larger sizes available on special order.

511LDH 12-Point Shallow Socket Set. LDH463 thru LDH723 (11 pcs)
(1 7/16" to 2 1/4").

Shallow

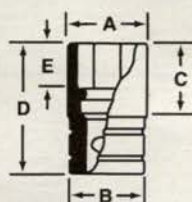
Hex	6	A	B	C	D	E
2 3/8	L763	3 3/8	2 1/4	2 3/8	3 7/8	1 5/8
2 1/2	L803	3 1/2	2 1/4	2 11/16	4 1/8	1 3/4
2 5/8	L843	3 5/8	2 1/4	2 3/4	4 1/4	1 7/8
2 3/4	L883	3 3/4	2 1/4	3	4 1/2	2
2 15/16	L943	4	2 3/8	3 9/32	4 7/8	2 1/8
3 1/8	L1003	4 1/4	2 3/8	3 9/32	5	2 1/8

Larger sizes available on special order.

506L 6-Point Shallow Socket Set. L763 thru L1003 (6 pcs)
(2 3/8" to 3 1/8").



FLANK DRIVE® Impact Sockets



Shallow

Hex	6	A	B	C	D	E
3/4	IM243	1 1/2	2 1/8	1 5/16	2 1/8	1 1/16
13/16	IM263	1 1/2	2 1/8	1 5/16	2 1/8	1 1/16
7/8	IM283	1 1/2	2 1/8	1 5/16	2 1/8	5/8
15/16	IM303	1 19/32	2 1/8	1 5/16	2 1/8	7/8
1	IM323	1 11/16	2 1/8	1 1/16	2 1/4	1 1/16
1 1/16	IM343	1 3/4	2 1/8	1 1/16	2 1/4	1 1/16
1 1/8	IM363	1 7/8	2 1/8	1 1/16	2 1/4	1 1/16
1 3/16	IM383	1 7/8	2 1/8	1 1/16	2 1/4	1 1/16
1 1/4	IM403	2	2 1/8	1 3/16	2 3/8	3/4
1 5/16	IM423	2 1/16	2 1/8	1 5/16	2 1/2	7/8
1 3/8	IM443	2 1/8	2 1/8	1 5/16	2 1/2	7/8
1 7/16	IM463	2 1/4	2 1/4	1 7/16	2 1/2	15/16
1 1/2	IM483B	2 3/8	2 1/4	1 7/16	2 5/8	15/16
1 9/16	IM503A	2 3/8	2 1/4	1 7/16	2 5/8	15/16
1 5/8	IM523A	2 3/8	2 1/4	1 5/8	2 3/4	1 1/16
1 11/16	IM543	2 9/16	2 3/8	1 5/8	2 3/4	1 1/16
1 3/4	IM563	2 5/8	2 3/8	1 23/32	2 7/8	1 5/32
1 13/16	IM583	2 3/4	2 3/8	1 23/32	2 15/16	1 3/16
1 7/8	IM603	2 3/4	2 3/8	1 23/32	2 15/16	1 3/16
1 15/16	IM623	2 3/4	2 3/8	1 23/32	2 15/16	1 3/16

547IM 6-Point Shallow Set. IM243 thru IM1443 (47 pcs) (3/4" to 4 1/2").

537IM 6-Point Shallow Set. IM243 thru IM963 (37 pcs) (3/4" to 3").

521IM 6-Point Shallow Set. IM243 thru IM643 (21 pcs) (3/4" to 2").

Shallow

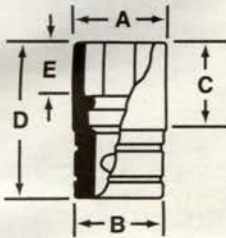
Hex	6	A	B	C	D	E
2	IM643	3	2 3/8	1 31/32	3 1/8	1 9/32
2 1/16	IM663	3	2 3/8	1 31/32	3 1/8	1 9/32
2 1/8	IM683	3 1/8	2 3/8	2 3/32	3 1/4	1 9/32
2 3/16	IM703	3 1/4	2 3/8	2 5/32	3 11/32	1 7/16
2 1/4	IM723	3 1/4	2 3/8	2 5/32	3 11/32	1 7/16
2 5/16	IM743	3 3/8	2 3/8	2 5/32	3 1/2	1 1/2
2 3/8	IM763	3 1/2	2 3/8	2 5/32	3 1/2	1 1/2
2 7/16	IM783	3 1/2	2 3/8	2 5/32	3 1/2	1 1/2
2 1/2	IM803	3 1/2	2 3/8	2 1/8	3 5/8	1 5/8
2 9/16	IM823	3 5/8	2 3/8	2 1/8	3 5/8	1 5/8
2 5/8	IM843	3 3/4	2 3/8	2 5/16	3 3/4	1 5/8
2 11/16	IM863	3 3/4	2 3/8	2 15/32	3 7/8	1 13/16
2 3/4	IM883	3 3/4	2 3/8	2 21/32	3 7/8	1 13/16
2 13/16	IM903	4	2 3/8	2 11/16	4	1 13/16
2 7/8	IM923	4	2 3/8	2 11/16	4	1 13/16
2 15/16	IM943	4 1/8	2 3/8	2 11/16	4 13/16	2 1/32
3	IM963	4 1/4	2 3/8	3 5/16	4 3/8	2 1/16
3 1/8	IM1003	4 1/4	2 3/8	3 5/16	4 3/8	2 1/16
3 1/4	IM1043	4 1/2	2 3/8	3 1/32	4 3/8	2 1/16
3 3/8	IM1083	4 5/8	2 3/8	3 5/16	4 23/32	2 1/4
3 1/2	IM1123	4 3/4	2 3/8	3 11/32	4 3/4	2 1/4
3 5/8	IM1163	5	2 3/8	3 11/32	4 3/4	2 5/16
3 7/8	IM1243	5 1/4	2 3/8	3 25/32	5 1/4	2 9/16
4	IM1283	5 1/2	2 3/8	3 25/32	5 3/8	2 9/16
4 1/8	IM1323	5 9/16	2 3/8	3 25/32	5 3/8	2 9/16
4 1/4	IM1363	5 3/4	2 3/8	3 25/32	5 1/2	2 5/8
4 1/2	IM1443	6	2 3/8	3 25/32	5 5/8	2 5/8

FLANK DRIVE® Impact Sockets 1" Drive

Shallow

mm	6	A	B	C	D	E
27	IMM273	44.5	53.7	25.4	57.2	17.5
30	IMM303	47.8	53.7	26.9	57.2	17.5
32	IMM323	50.8	53.7	30.2	60.5	19.1
35	IMM353	53.7	53.7	30.5	63.5	22.4
38	IMM383	59.7	57.2	37.3	66.5	23.6
41	IMM413A	60.0	57.2	40.6	69.9	26.4
46	IMM463	69.9	60.5	45.2	74.4	30.0
50	IMM503	69.9	60.5	47.0	76.2	31.2
60	IMM603	88.9	61.2	54.6	88.9	38.1
65	IMM653	92.1	60.5	54.1	91.9	41.1
70	IMM703	95.3	60.5	67.3	98.6	45.7
75	IMM753	104.8	60.5	68.3	106.4	51.6

ASME/ANSI B107.5M-1994



1" deep impact sockets are continued on the next page.

Deep

II	6	A	B	C	D	E
7/8	SIM283	1 19/32	2 1/8	1 13/16	3	5/8
15/16	SIM303	1 19/32	2 1/8	1 13/16	3	11/16
1	SIM323	1 19/32	2 1/8	1 13/16	3	3/4
1 1/16	SIM343	1 13/16	2 1/8	1 13/16	3	3/4
1 1/8	SIM363	1 13/16	2 1/8	1 13/16	3	3/4
1 3/16	SIM383	1 13/16	2 1/8	1 13/16	3	3/4
1 1/4	SIM403	2 1/16	2 1/8	2 1/16	3 1/4	7/8
1 5/16	SIM423	2 1/16	2 1/8	2 1/16	3 1/4	7/8
1 3/8	SIM443	2 1/16	2 1/8	2 1/16	3 1/4	7/8
1 7/16	SIM463A	2 1/4	2 1/8	2 3/32	3 1/4	29/32
1 1/2	SIM483B	2 3/8	2 1/4	2 11/32	3 1/2	1
1 9/16	SIM503A	2 3/8	2 1/4	2 11/32	3 1/2	1
1 5/8	SIM523B	2 3/8	2 1/4	2 1/2	3 5/8	1
1 11/16	SIM543	2 1/2	2 3/8	2 7/16	3 5/8	1 1/8
1 3/4	SIM563	2 3/4	2 3/8	2 11/16	3 7/8	1 1/8
1 13/16	SIM583	2 3/4	2 3/8	2 11/16	3 7/8	1 3/16
1 7/8	SIM603	2 3/4	2 3/8	2 11/16	3 7/8	1 3/16
1 15/16	SIM623	3	2 3/8	2 15/16	4 1/8	1 1/4
2	SIM643	3	2 3/8	2 15/16	4 1/8	1 5/16
2 1/16	SIM663	3	2 3/8	2 11/16	3 7/8	1 5/16
2 1/8	SIM683	3 1/4	2 3/8	3 3/16	4 3/8	1 5/16
2 3/16	SIM703	3 1/4	2 3/8	3 3/16	4 3/8	1 1/2
2 1/4	SIM723	3 1/4	2 3/8	3 3/16	4 3/8	1 1/2
2 5/16	SIM743	3 1/2	2 3/8	3 5/16	4 1/2	1 1/2
2 3/8	SIM763	3 1/2	2 3/8	3 5/16	4 1/2	1 1/2
2 9/16	SIM823	3 5/8	2 3/8	3 1/2	4 7/8	1 5/8
2 3/4	SIM883	3 3/4	2 3/8	3 5/8	5 1/8	1 3/4

Larger sizes available on special order

527SIM 6-Point Deep Set. SIM283 thru SIM883 (27 pcs) (7/8" to 2 3/4").

519SIM 6-Point Deep Set. SIM283 thru SIM643 (19 pcs) (7/8" to 2").

1" Drive Locking Rings and Pins

The following are required for tool use:

Stock No.	Drive Size	Description	Used With
IMR3	1" Spline	Socket Retainer	All Spline Drive Sockets/Accessories All 1" Drive Sockets/Accessories
IM243R	1"	Synthetic Rubber Locking Ring for IM243 to IM443, and SIM233 to SIMM353	1" Drive Sockets/Accessories Up to 1 3/8" and Up to 35mm
IM243P	1"	Steel Locking Pin, use with IM243R	1" Drive Sockets/Accessories Up to 1 3/8" and Up to 35mm
IM243PP	1"	Reinforced Plastic Locking Pin	1" Drive Sockets/Accessories Up to 1 3/8" and Up to 35mm
IM483R	1" Spline	Rubber Locking Pin, use with IM483R	All Spline Drive Sockets/Accessories 1" Drive Sockets from 1 7/16" and from 35mm
IM483P	1" Spline	Steel Locking Pin	All Spline Drive Sockets/Accessories 1" Drive Sockets from 1 7/16" and from 35mm



WARNING

- Do not use chrome or industrial finish hand tools with power drivers.
- Read additional safety precautions on pages M1 to M4.



1" Drive **FLANK DRIVE®** Impact Sockets



Deep

mm	6	A	B	C	D	E
27	SIMM273	46.0	53.7	46.0	76.2	19.1
30	SIMM303	46.0	53.7	46.0	76.2	19.1
32	SIMM323	52.3	53.7	76.2	82.6	22.4
33	SIMM333	52.3	53.7	53.3	88.6	22.4
38	SIMM383	60.3	57.2	59.7	88.9	25.4
46	SIMM463	69.9	60.5	69.3	98.6	30.2
65	SIMM653	92.1	60.5	92.2	124	41.1

Deep Single Square*

11	4	A	B	C	D	E
1	SIM732	2 1/8	2 1/8	1 13/16	3	3/4

Larger sizes available on special order

*Not **FLANK DRIVE®**

Deep Double Square*

11	8	A	B	C	D	E
1 7/16	SIM746	2 5/8	2 3/8	2 1/16	3 1/4	7/8
1 1/2	SIM748	2 7/8	2 3/8	2 3/16	3 1/2	7/8
1 5/8	SIM752	2 7/8	2 3/8	2 3/16	3 1/2	7/8
1 11/16	SIM754	3 1/8	2 3/8	2 7/16	3 5/8	1
1 3/4	SIM756	3 1/8	2 3/8	2 7/16	3 5/8	1
1 13/16	SIM758	3 3/8	2 3/8	2 9/16	3 7/8	1 1/16

Larger sizes available on special order

*Not **FLANK DRIVE®**

Shallow Crawler Track Bolt

11	6	A	B	C	D	E
3/4	IMT243	1 7/16	2 1/8	1 5/16	2 1/8	1 1/16
1 5/16	IMT303	1 19/32	2 1/8	1 5/16	2 1/8	1 1/16
1 1/8	IMT363	1 7/8	2 1/8	1 1/16	2 1/4	1 1/16
1 5/16	IMT423	2 1/16	2 1/8	1 5/16	2 1/2	7/8

Larger sizes available on special order

Shallow Single Square*

11	4	A	B	C	D	E
3/4	IM724	1 15/16	2 1/8	1 5/16	2 1/8	5/8
13/16	IM726	1 15/16	2 1/8	1 5/16	2 1/8	5/8
7/8	IM728	2 1/16	2 1/8	1 5/16	2 1/8	5/8
1 5/16	IM730**	2 1/16	2 1/8	1 5/16	2 1/8	5/8
1	IM732	2 1/8	2 1/8	1 1/16	2 1/4	3/4
1 1/8	IM736	2 1/4	2 1/4	1 1/16	2 1/4	3/4

Larger sizes available on special order

*Not **FLANK DRIVE®**

** Has Budd Wheel applications

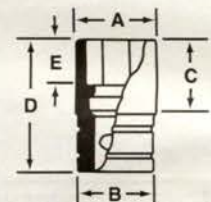


Shallow Double Square*

11	8	A	B	C	D	E
1 1/4	IM740	2 3/8	2 3/8	1 1/8	2 3/8	13/16
1 5/16	IM742	2 3/8	2 5/8	1 1/4	2 1/2	7/8
1 3/8	IM744	2 3/8	2 5/8	1 1/4	2 1/2	7/8
1 1/2	IM748	2 7/8	2 3/8	1 5/16	2 5/8	15/16
1 5/8	IM752	3 1/8	2 3/8	1 13/32	2 3/4	15/16
1 7/8	IM760	3 3/8	2 3/8	1 1/2	2 7/8	1 1/16
2	IM764	3 5/8	2 3/8	1 23/32	3 1/8	1 13/16

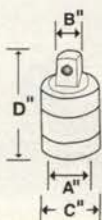
Larger sizes available on special order

*Not **FLANK DRIVE®**



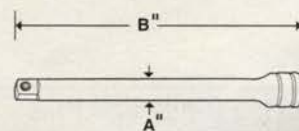
Swivel Universal Joint with Pin Hole

	A	B
IPB3	2 1/2	4 3/16



Extensions with Pin Hole

	A	B
IM133	1	3
IM63B	1 1/8	7 1/8
IM123	1 3/8	13 1/8



Adaptors with Pin Hole

	A	B	C	D
IM72	3/4	1	1 5/8	2 9/16
IM124B	1	3/4	2 3/8	2 13/16
IM35	1	1 1/2	2 1/4	3 1/2
IM53	1 1/2	1	3 1/4	4 1/4



Impact Accessories

Ratchets / Handles

Ratchet

Complete Tool



L78

C

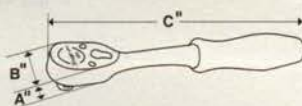
42

Head Only



L78Y

16

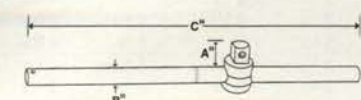


22 1/2"

C A B

9 29/32 x 1 3/4 x 4 1/16

L55-1



Sliding T-Handle with Lock Button

Complete Tool



L55

C

36

Head Only



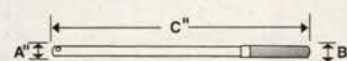
L55-2

A

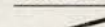
2 1/2



L55-1



Handle with Lock Button



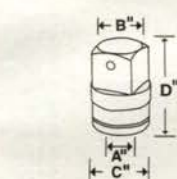
L55-1

A

1 3/8

C

36



Adaptors with Retention Pin Hole



IM35

A

1

B

1 1/2

C

2 1/4

D

3 1/2

IM53

1 1/2

1

3 1/4

4 1/4

IM59

1 1/2

2 1/2

3 1/4

5 1/8

IM95

2 1/2

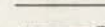
1 1/2

5

6 3/8



Extensions with Retention Pin Hole



IM105

A

1 1/2

B

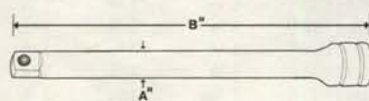
10

IM205

1 1/2

20

Larger sizes available on special order



Swivel Universal Joint with Retention Pin Hole



IP85

A

3 5/8

B

6 1/16



Locking Rings and Pins for 1 1/2" Extensions, Adaptors, Impact Sockets and 2 1/2" Impact Sockets

The following are required for tool use:

Stock No.	Drive Size	Description	Used With
IM243R	1 1/2"	Synthetic Rubber Locking Ring, for IM35	1" Drive Sockets/Accessories Up to 1 3/8" and Up to 35mm
IM243P	1 1/2" Spline	Steel Pin, for IM35	1" Drive Sockets/Accessories Up to 1 3/8" and Up to 35mm
IM243PP	1 1/2"	Reinforced Plastic Pin, for IM35	1" Drive Sockets/Accessories Up to 1 3/8" and Up to 35mm
IMR3	1 1/2" Spline	Socket Retainer, for IM35	All Spline Drive Sockets/Accessories All 1" Drive Sockets/Accessories
IM445R	1 1/2"	Synthetic Rubber Locking Ring, for IM105, IM205, IM59, IP85, and "IGE Series" sockets.	All 1 1/2" Drive Sockets/Accessories
IM445P	1 1/2"	Steel Pin, for same units as IM445R Locking Ring.	All 1 1/2" Drive Sockets/Accessories
IM729P	1 1/2"	Steel Pin, for IM95	All 2 1/2" Drive Sockets



WARNING

- Do not hold swivel joint tools during use.
- Frequently inspect, clean, and lubricate all non-sealed ratchet mechanisms with light oil.
- Do not replace worn parts individually; use entire contents of the service kits.
- Read additional safety precautions on pages M1 to M4.



1 1/2" Drive

FLANK DRIVE® Impact Sockets



Shallow

II	6	A	B	C	D	E
1 3/8	IM445	2 7/8	3 1/4	1 3/8	3	7/8
1 1/2	IM485	2 7/8	3 1/4	1 7/16	3 3/32	29/32
1 5/8	IM525	2 29/32	3 1/4	1 9/16	3 3/16	1 1/32
1 3/4	IM565	3 1/32	3 1/4	1 21/32	3 3/32	1 3/32
1 7/8	IM605	3 5/32	3 1/4	1 3/4	3 3/8	1 7/32
2	IM645	3 1/2	3 1/4	1 13/16	3 7/16	1 9/32
2 3/16	IM705	3 1/2	3 1/4	2	3 21/32	1 7/16
2 1/4	IM725A	3 9/16	3 1/4	2 1/8	3 3/4	1 17/32
2 3/8	IM765	3 29/32	3 1/4	2 1/4	3 7/8	1 9/16
2 1/2	IM805	3 7/8	3 1/4	2 3/8	4	1 19/32
2 9/16	IM825	3 29/32	3 1/4	2 13/32	4 1/32	1 5/8
2 5/8	IM845*	4	3 1/4	2 15/32	4 3/32	1 11/16
2 3/4	IM885*	4 5/32	3 1/4	2 7/16	4 7/32	1 13/16
2 7/8	IM925*	4 5/16	3 1/4	2 11/16	4 9/16	1 7/8
2 15/16	IM945*	4 3/8	3 1/4	2 3/4	4 3/8	1 29/32
3	IM965*	4 7/16	3 1/4	2 27/32	4 7/16	1 5/16
3 1/16	IM985*	4 9/16	3 1/4	2 7/8	4 1/2	1 31/32
3 1/8	IM1005*	4 5/8	3 1/4	3	4 9/16	2
3 1/4	IM1045*	4 25/32	3 1/4	3	4 21/32	2 1/8
3 3/8	IM1085*	4 19/16	3 1/4	3 1/8	4 3/4	2 7/32
3 7/16	IM1105*	5	3 1/4	3 7/32	4 27/32	2 9/32
3 1/2	IM1125*	5 1/16	3 1/4	3 1/4	4 29/32	2 5/16
3 5/8	IM1165*	5 1/4	3 1/4	3 7/16	5 1/8	2 13/32
3 3/4	IM1205*	5 3/8	3 1/4	3 1/2	5 1/8	2 15/32
3 13/16	IM1225*	5 3/8	3 1/4	3 7/8	5 3/16	2 17/32
3 7/8	IM1245*	5 17/32	3 1/4	3 5/8	5 1/4	2 9/16
4	IM1285*	5 21/32	3 1/4	3 25/32	5 13/32	2 5/8
4 1/4	IM1365*	5 31/32	3 1/4	4 1/16	5 11/16	2 13/16
4 5/16	IM1385*	6 1/32	3 1/4	4 5/32	5 25/32	2 7/8
4 3/8	IM1405*	6 3/32	3 1/4	4 7/32	5 27/32	2 29/32
4 1/2	IM1445*	6 1/4	3 1/4	4 3/8	6	3 1/32
4 5/8	IM1485*	6 13/16	3 1/4	4 7/16	6 1/16	3 1/16
4 3/4	IM1525*	6 9/16	3 1/4	4 1/2	6 1/8	3 1/8

Larger sizes available on special order

*Not Flank Drive®

Deep

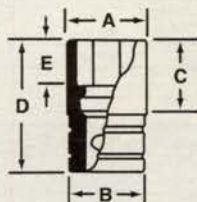
II	6	A	B	C	D	E
1 1/2	SIM485	2 7/8	3 1/4	2 1/2	4 1/8	29/32
1 5/8	SIM525	2 29/32	3 1/4	2 5/8	4 1/4	1 1/32
1 13/16	SIM585	3 3/32	3 1/4	2 7/8	4 1/2	1 3/32
1 7/8	SIM605	3 5/32	3 1/4	2 13/16	4 9/16	1 7/32
2	SIM645	3 9/32	3 1/4	3	4 5/8	1 9/32
2 1/8	SIM685	3 7/16	3 1/4	3 3/16	4 13/16	1 7/16
2 3/16	SIM705	3 1/2	3 1/4	3 1/4	4 7/8	1 7/16
2 1/4	SIM725	3 9/16	3 1/4	3 5/16	4 15/16	1 17/32
2 5/16	SIM745	3 5/8	3 1/4	3 3/8	5	1 17/32
2 3/8	SIM765	3 23/32	3 1/4	3 15/32	5 3/32	1 17/32
2 7/16	SIM785	3 25/32	3 1/4	3 17/32	5 5/32	1 9/16
2 1/2	SIM805	3 29/32	3 1/4	3 5/8	5 1/4	1 19/32
2 9/16	SIM825	3 29/32	3 1/4	3 11/16	5 5/16	1 5/8
2 5/8	SIM845*	4	3 1/4	3 25/32	5 13/32	1 11/16
2 3/4	SIM885*	4 5/32	3 1/4	3 29/32	5 17/32	1 13/16
2 7/8	SIM925*	4 5/16	3 1/4	4 1/16	5 11/16	1 7/8
3	SIM965*	4 7/16	3 1/4	4 1/4	5 7/8	1 15/16
3 1/16	SIM985*	4 9/16	3 1/4	4 9/32	5 29/32	1 13/32
3 1/8	SIM1005*	4 5/8	3 1/4	4 3/8	6	2 1/16
3 5/16	SIM1065*	4 27/32	3 1/4	4 19/32	5 7/32	2 3/16
3 3/8	SIM1085*	4 9/16	3 1/4	4 21/32	6 3/32	2 17/32
3 7/16	SIM1105*	5	3 1/4	4 3/4	6 3/8	2 9/32
3 1/2	SIM1125*	5 1/16	3 1/4	4 25/32	6 15/32	2 5/16
3 3/4	SIM1205*	5 3/8	3 1/4	5 1/8	6 3/4	2 1/2
3 7/8	SIM1245*	5 17/32	3 1/4	5 13/32	7 1/32	2 9/16
4	SIM1285*	5 31/32	3 1/4	5 5/8	7 1/4	2 5/8
4 1/8	SIM1325*	5 19/16	3 1/4	5 7/8	7 1/2	2 23/32
4 1/4	SIM1365*	5 31/32	3 1/4	5 1/8	7 3/4	2 13/16
4 1/2	SIM1445*	6 1/4	3 1/4	5 1/4	7 7/8	3 1/32
4 5/8	SIM1485*	6 13/32	3 1/4	5 3/8	8	3 1/16
4 3/4	SIM1525*	6 9/16	3 1/4	5 1/2	8 1/8	3 1/8

Larger sizes available on special order

*Not Flank Drive®

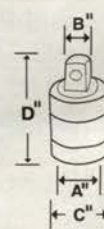
2 1/2" Drive

Impact Sockets



Shallow

II	6	A	B	C	D	E
2 5/8	IM849	4 5/16	5	3	5 1/2	1 11/16
2 15/16	IM949	5	5	3 1/8	5 3/4	2
3 1/8	IM1009	5	5	3 1/8	5 3/4	2
3 1/2	IM1129	5 5/16	5	3 1/4	5 3/4	2 3/8
3 7/8	IM1249	5 11/16	5	3 3/4	6 1/4	2 1/2
4 1/8	IM1329	5 31/32	5	3 3/4	6 1/4	2 11/16
4 1/4	IM1369	6 3/32	5	4 1/4	6 3/4	2 3/4
4 5/8	IM1489	6 1/2	5	4 1/2	7	3
4 7/8	IM1569	7	5	5	7 1/2	3 1/8
5	IM1609	7	5	5	7 1/2	3 1/4
5 1/4	IM1689	7 3/16	5	5	7 1/2	3 3/8
5 3/8	IM1729	7 1/2	6	5 1/4	7 3/4	3 1/2
5 7/16	IM1749	7 1/2	6	5 1/4	7 3/4	3 9/16
5 5/8	IM1809	7 9/16	6	5 1/4	7 3/4	3 3/4



Adaptor

	A	B	C	D
IM95	2 1/2	1 1/2	5	6 3/8

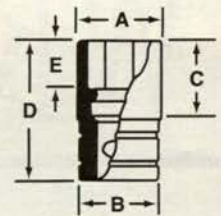
FLANK DRIVE® Impact Sockets

Shallow

		A	B	C	D	E
1 1/4	IMS407	2	2 3/8	1 11/16	2 15/16	2 1/32
1 5/16	IMS427	2 1/16	2 3/8	1 11/16	2 15/16	3/4
1 7/16	IMS467	2 1/4	2 3/8	1 11/16	3 1/32	29/32
1 1/2	IMS487	2 5/16	2 3/8	1 15/16	3 3/16	15/16
1 5/8	IMS527	2 7/16	2 3/8	1 15/16	3 1/16	1 1/16
1 11/16	IMS547	2 7/16	2 3/8	1 15/16	3 3/16	1 1/16
1 13/16	IMS587	2 21/32	2 3/8	2 5/32	3 13/32	1 5/32
1 7/8	IMS607	2 23/32	2 3/8	2 1/4	3 1/2	1 1/8
2	IMS647	2 7/8	2 3/8	2 1/4	3 1/2	1 1/4
2 1/4	IMS727	3 1/8	2 3/8	2 19/32	3 27/32	1 13/32
2 3/8	IMS767	3 5/16	2 3/8	2 5/8	3 5/8	1 1/2
2 9/16	IMS827*	3 17/32	2 3/8	2 3/4	4	1 5/8
2 3/4	IMS887*	3 3/4	2 3/8	2 29/32	4 5/32	1 25/32

Larger sizes available on special order.

*Not Flank Drive®.

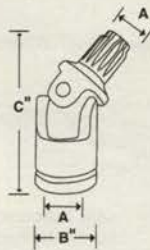


Impact Accessories



Universal Joint Locking Button Retention

	A	B	C
IMS8B	No. 5, 14 Tooth	2 13/16	7 15/32



Spline-to-Square Drive Adaptor

	A	B	C	D
IMS3	1" Square	No. 5, 14 Tooth	2 3/8	3 3/8



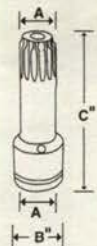
Square-to-Spline Drive Adaptor Locking Button Retention

	A	B	C	D
IMS30A	No. 5, 14 Tooth	1" Square	2 13/64	4 1/8



Extension Locking Button Retention

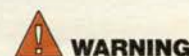
	A	B	C
IMSX8A	No. 5, 14 Tooth	1 5/8	8



Master Ring and Pin Chart for Impact Sockets and Accessories

The following are required for tool use:

Stock No.	Drive Size	Description	Used With	See Page
IM182R	3/4"	Rubber Locking Ring	All 3/4" Drive Sockets/Accessories	138, 140-142
IM182P	3/4"	Steel Locking Pin, for all 3/4" drive units	All 3/4" Drive Sockets/Accessories	138, 140-142
IM182PP	3/4"	Reinforced Plastic Locking Pin	All 3/4" Drive Sockets/Accessories	138, 140-142
IMR2	3/4"	Socket Retainer	All 3/4" Drive Sockets/Accessories	138, 140-142
IM243R	1"	Locking Ring, for IM243 to IM443, and SIM233 to SIMM353	1" Drive Sockets/Accessories Up to 1 3/8" and Up to 35mm	144-146
IM243P	1"	Steel Locking Pin, use with IM243R	1" Drive Sockets/Accessories Up to 1 3/8" and Up to 35mm	144-146
IM243PP	1"	Reinforced Plastic Locking Pin	1" Drive Sockets/Accessories Up to 1 3/8" and Up to 35mm	144-146
IMR3	#5 Spline	Socket Retainer	All Spline Drive Sockets/Accessories All 1" Drive Sockets/Accessories	149
IM483R	#5 Spline	Rubber Locking Ring, use with IM483R	All Spline Drive Sockets/Accessories 1" Drive Sockets from 1 7/16" and from 35mm	149
IM483P	#5 Spline	Steel Locking Pin	All Spline Drive Sockets/Accessories 1" Drive Sockets from 1 7/16" and from 35mm	149
IM445R	1 1/2"	Rubber Locking Ring	All 1 1/2" Drive Sockets/Accessories	147, 148
IM445P	1 1/2"	Steel Locking Pin	All 1 1/2" Drive Sockets/Accessories	147, 148
IM729P	2 1/2"	Steel Locking Pin	All 2 1/2" Drive Sockets	-



WARNING

• Read additional safety precautions on pages M1 to M4.



WRENCHES

Flank Drive® Plus wrenches feature a patented open end design that delivers up to 62% more turning power than conventional open end wrenches and are available in sizes from 7mm - 25mm and from 1/4" to 1-3/8". They deliver more power than anyone ever expected from an open end design. The box end of Snap-on wrenches features our original famous Flank Drive® wrenching system that grips on the sides, away from the corners and helps you turn the most stubborn, and even rounded fasteners. With Snap-on Flank Drive® Plus wrenches you get sure-gripping performance at both ends of the wrench.

Flank Drive® Plus Open End and Combination Wrenches

Our wrenches are strategically longer for more leverage and reach. Let the wrench do the work.

Flank Drive® Plus



Our original Flank Drive®, the proven design for turning fasteners

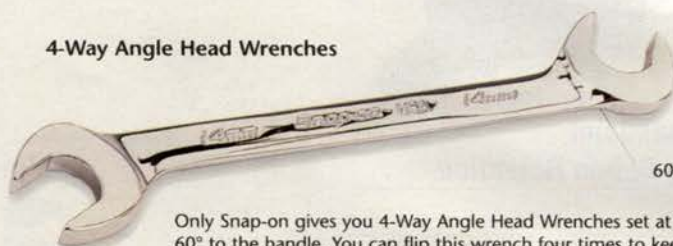
Flank Drive® Plus Combination Ratcheting Box/Open End

Up to 80 gear teeth for ratcheting in tight areas

Low profile easy-action reverse lever. It won't get in your way.

Jewelry-like finish. Tough, durable Nickel Chrome looks great and cleans up well.

4-Way Angle Head Wrenches



60° Angle

Only Snap-on gives you 4-Way Angle Head Wrenches set at 30° and 60° to the handle. You can flip this wrench four times to keep getting a new bite in tough situations. Compare with other brands who use 15° and 60° offsets — you can do more with Snap-on wrenches.

High Performance Wrenches



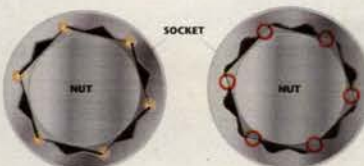
Our high-performance wrenches were originally designed for high-tensile aircraft strength nuts, bolts and cap screws. However, automotive technicians have found they are ideal for tough jobs in tight quarters on today's vehicles. Because these wrenches have the smallest profile available, their thin handles get them into areas you can't reach any other way. Our very thin box wrench walls also help with clearance without sacrificing strength. You get all that plus extra length for reach and leverage.

Ergonomic Adjustable Wrenches



Ergonomic high-visibility adjustable wrenches feature Snap-on red "Grip" handles so your hand stays warm and fatigues less. FADH models feature Flank Drive® Plus technology. Strategically-placed serrations in the jaws grip fasteners away from their corners making these wrenches up to 137% more turning power than conventional designs. All models feature opposing metric and fractional scales.

Here you see a conventional 12-point wrench and the contact it makes on the corner of a nut or bolt. The corner can round off under high loads causing the wrench to slip.



A Snap-on® Flank Drive® wrench moves the contact away from the corner with a radius, and then provides flat-to-flat contact for up to 20% more turning power.

FLANK DRIVE® Plus Combination Wrenches

Snap-on® **FLANK DRIVE®** Plus combination wrenches exceed the limits of any other open end design. The open end features a patented series of flutes or notches that allow the open end to grip a fastener away from its corners much like our box ends do. This gives you up to 62% more turning power and strength* more than any other open end design. (*Increase ranges from 20 to 62% over other open end wrenches on Class 8.8 fasteners.) Force is directed away from the weaker corners of the nut and directed to the stronger flats. You can actually see the grip—in fact, on some fasteners that you don't want marked, you should use our standard wrench. Coupled with our famous **FLANK DRIVE®** wrenching system on the box, Snap-on® combination wrenches are the overwhelming choice of professionals.

Selection, convenience, and quality. **FLANK DRIVE®** Plus combination wrenches are available in popular handle styles in the sizes you need the most; long, short, and even ratcheting-style open end. And just like all Snap-on® wrenches, they are sized for optimum comfort and balance in your hand.

Mirror-like finish. Tough, durable nickel-chrome plating helps protect against corrosion and makes it easy to wipe the wrenches clean.

Patented under U.S. Patent No. 5,117,714.



Ratcheting Box / Open End

mm	12	A	B	C	D	E	Reverse Lever Service Kit
3/8	SOEXR12	27/32	27/32	5/16	3/16	7	RKW3
7/16	SOEXR14	7/8	29/32	11/32	7/32	7 5/8	RKW3
1/2	SOEXR16	31/32	1 1/16	13/32	1/4	8 11/16	RKW5
9/16	SOEXR18	1 1/16	1 5/32	13/32	1/4	9 1/4	RKW6
5/8	SOEXR20	1 3/16	1 5/16	7/16	9/32	10 1/4	RKW6
11/16	SOEXR22	1 1/4	1 3/8	15/32	5/16	10 7/8	RKW9
3/4	SOEXR24	1 7/16	1 9/16	1/2	11/32	12	RKW11

SOEXR707 12-point Set. SOEXR12 thru SOEXR24 (7 pcs) (3/8" to 3/4") with YA381SG8 Soft Grip Wrench Organizer.

Ratcheting Box / Open End

mm	12	A	B	C	D	E	Reverse Lever Service Kit
8	SOEXRM8	17.8	17.0	7.1	4.3	149	RKW1
9	SOEXRM9	19.6	19.2	7.9	4.7	164	RKW2
10	SOEXRM10	21.5	21.1	8.3	5.1	179	RKW3
11	SOEXRM11	22.0	23.4	8.6	5.5	194	RKW3
12	SOEXRM12	23.5	25.1	9.3	5.9	207	RKW4
13	SOEXRM13	25.0	27.2	10.2	6.3	221	RKW5
14	SOEXRM14	27.0	29.2	10.2	6.7	235	RKW6
15	SOEXRM15	28.5	31.2	11.1	7.1	249	RKW7
16	SOEXRM16	30.5	33.0	11.1	7.4	261	RKW8
17	SOEXRM17	32.0	35.1	12.0	7.8	277	RKW9
18	SOEXRM18	34.5	37.1	12.0	8.2	291	RKW10
19	SOEXRM19	36.5	39.4	12.9	8.6	305	RKW11

SOEXRM705 12-Point Set. SOEXRM15 thru SOEXRM19 (5 pcs) (15 to 19mm) in plastic tray.

SOEXRM707 12-Point Set. SOEXRM8 thru SOEXRM14 (7 pcs) (8 to 14mm) with YA389SG12 Soft Grip Wrench Organizer.



Standard Length

mm	12	A	B	C	D	E
7	SOEXM7	11	15	5	4	135
8	SOEXM8	13	17	6	4	146
9	SOEXM9	14	19	6	5	159
10	SOEXM10	15	21	7	5	171
11	SOEXM11	17	23	8	6	184
12	SOEXM12	18	25	8	6	195
13	SOEXM13	20	27	9	6	207
14	SOEXM14	21	29	9	7	219
15	SOEXM15	22	31	10	7	231
16	SOEXM16	24	33	10	7	242
17	SOEXM17	25	35	11	8	255
18	SOEXM18	27	37	12	8	267
19	SOEXM19	28	39	12	9	279
20	SOEXM20	30	41	13	9	292
21	SOEXM21	31	43	13	9	304
22	SOEXM22	33	46	14	10	318
23	SOEXM23	34	47	14	10	327
24	SOEXM24	35	49	15	11	337
25	SOEXM25	37	52	16	11	356

SOEXM710 12-Point Set. SOEXM10 thru SOEXM19 (10 pcs) (10 to 19mm) in a plastic tray.

SOEXM707 12-Point Set. SOEXM10 thru SOEXM17 except SOEXM16 (7 pcs) (10 to 17mm) in a plastic tray.



WARNING

• Read additional safety precautions on pages M1 to M4.

See Warranty Information on inside front cover.

Wrenches **FLANK DRIVE®** Plus Combination



SOEX711



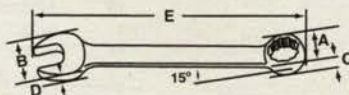
Standard Length

11	12	A	B	C	D	E
1/4	SOEX8	13/32	17/32	3/16	5/32	5
5/16	SOEX10	1/2	21/32	7/32	5/32	5 3/4
11/32	SOEX11	17/32	23/32	1/4	3/16	6 1/8
3/8	SOEX12	19/32	25/32	1/4	3/16	6 1/2
7/16	SOEX14	21/32	29/32	7/32	7/32	7 1/4
1/2	SOEX16	3/4	1 1/16	11/32	1/4	8
9/16	SOEX18	27/32	1 5/32	3/8	9/32	8 3/4
5/8	SOEX20	15/16	1 5/16	13/32	9/32	9 1/2
11/16	SOEX22	1 1/32	1 13/32	7/16	5/16	10 1/4
3/4	SOEX24	1 1/8	1 9/16	15/32	11/32	11
13/16	SOEX26	1 3/16	1 21/32	17/32	3/8	11 3/4
7/8	SOEX28	1 9/32	1 13/16	9/16	3/8	12 1/2
15/16	SOEX30	1 3/8	1 29/32	19/32	13/32	13 1/4
1	SOEX32	1 15/32	2 1/32	5/8	7/16	14
1 1/16	SOEX34	1 9/16	2 5/32	19/32	15/32	14 3/4
1 1/8	SOEX36	1 5/8	2 5/16	11/16	15/32	15 17/32
1 3/16	SOEX38	1 23/32	2 13/32	23/32	1/2	16 1/4
1 1/4	SOEX40	1 13/16	2 9/16	3/4	17/32	17
1 5/16	SOEX42	1 29/32	2 21/32	3/4	9/16	17 25/32
1 3/8	SOEX44	2	2 13/16	3/4	19/32	18 17/32

SOEX711 12-Point Set. SOEX12 thru SOEX32 (11 pcs) (3/8" to 1") in a plastic tray.
SOEX707 12-Point Set. SOEX12 thru SOEX24 (7 pcs) (3/8" to 3/4") in a plastic tray.



SOEXL707



SOEXLM705



Long Handle

11	12	A	B	C	D	E
3/8	SOEXL12	19/32	25/32	1/4	3/16	7
7/16	SOEXL14	21/32	29/32	5/16	7/32	8
1/2	SOEXL16	3/4	1 1/16	11/32	1/4	9
9/16	SOEXL18	27/32	1 5/32	3/8	9/32	10
5/8	SOEXL20	15/16	1 5/16	13/32	9/32	11
11/16	SOEXL22	1 1/32	1 13/32	7/16	5/16	12
3/4	SOEXL24	1 1/8	1 9/16	15/32	11/32	13

SOEXL707 12-Point Set. SOEXL12 thru SOEXL24 (7 pcs) (3/8" to 3/4") in a plastic tray.



Short Handle

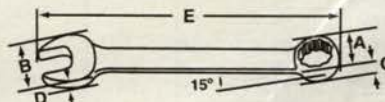
mm	12	A	B	C	D	E
10	SOEXM100	15	21	7	5	133
11	SOEXM110	17	23	8	6	138
12	SOEXM120	18	25	8	6	143
13	SOEXM130	20	27	9	6	148
14	SOEXM140	21	29	9	7	152
15	SOEXM150	22	31	10	7	157
16	SOEXM160	24	33	10	7	162
17	SOEXM170	25	35	11	8	167
18	SOEXM180	27	37	12	8	172
19	SOEXM190	28	39	12	9	177

SOEXSM710 12-Point Set. SOEXM100 thru SOEXM190 (10 pcs) (10 to 19mm) in a plastic tray.

Long Handle

mm	12	A	B	C	D	E
10	SOEXLM10	15	21	7	5	186
12	SOEXLM12	18	25	8	6	218
13	SOEXLM13	20	27	9	6	234
14	SOEXLM14	21	29	9	7	250
15	SOEXLM15	22	31	10	7	266

SOEXLM705 12-Point Set. SOEXLM10 thru SOEXLM15 (5 pcs) (10 to 15mm) in a plastic tray.



SOEXSM710

FLANK DRIVE® Combination Wrenches



Standard Length

11	6	12	12	A	B	C	D	E
1/4	—	OEX8B	—	13/32	17/32	3/16	5/32	5
5/16	OSH10B	OEX10B	GOEX10B	1/2	21/32	7/32	5/32	5 3/4
11/32	OSH11B	OEX11B	—	17/32	3/4	1/4	3/16	6 1/8
3/8	OSH12B	OEX12B	GOEX12B	19/32	13/16	1/4	3/16	6 1/2
7/16	OSH14B	OEX14B	GOEX14B	21/32	29/32	5/16	7/32	7 1/4
1/2	OSH16B	OEX16B	GOEX16B	3/4	1 1/16	11/32	1/4	8
9/16	OSH18B	OEX18B	GOEX18B	27/32	1 3/16	3/8	9/32	8 3/4
5/8	OSH20B	OEX20B	GOEX20B	15/16	1 5/16	13/32	9/32	9 1/2
11/16	OSH22B	OEX22B	GOEX22B	1 1/32	1 13/32	7/16	5/16	10 1/4
3/4	OSH24B	OEX24B	GOEX24B	1 1/8	1 9/16	15/32	11/32	11
13/16	OSH26B	OEX26B	GOEX26B	1 3/16	1 21/32	17/32	3/8	11 3/4
7/8	OSH28B	OEX28B	GOEX28B	1 9/32	1 13/16	9/16	3/8	12 1/2
15/16	OSH30B	OEX30B	GOEX30B	1 3/8	1 29/32	19/32	13/32	13 1/4
1	OSH32B	OEX32B	GOEX32B	1 15/32	2 1/32	21/32	7/16	14
1 1/16	—	OEX34B	GOEX34B	1 9/16	2 5/32	19/32	15/32	14 3/4
1 1/8	—	OEX36B	GOEX36B	1 5/8	2 5/16	11/16	1/2	15 17/32
1 3/16	—	OEX38B	GOEX38B	1 23/32	2 13/32	23/32	1/2	16 1/4
1 1/4	—	OEX40B	GOEX40B	1 13/16	2 9/16	3/4	17/32	17
1 5/16	—	OEX42B	GOEX42B	1 29/32	2 21/32	3/4	9/16	17 25/32
1 3/8	—	OEX44B	GOEX44B	2	2 13/16	3/4	19/32	18 17/32
1 7/16	—	OEX46B	GOEX46B	2 1/16	2 29/32	7/8	19/32	19 9/32
1 1/2	—	OEX48B	GOEX48B	2 5/32	3 1/32	7/8	5/8	20 1/32
1 9/16	—	OEX50B	GOEX50B	2 1/4	3 5/32	7/8	21/32	20 25/32
1 5/8	—	OEX52B	GOEX52B	2 11/32	3 5/16	7/8	11/16	21 1/2
1 11/16	—	OEX54A	—	2 7/16	3 13/32	7/8	23/32	22 9/32
1 3/4	—	OEX56A	GOEX56A	2 17/32	3 9/16	1 1/32	23/32	22 7/8
1 13/16	—	OEX58A	GOEX58A	2 5/8	3 21/32	1 1/32	3/4	23 19/32
1 7/8	—	OEX60A	GOEX60A	2 11/16	3 13/16	1 1/32	25/32	24 1/32
2	—	OEX64A	GOEX64A	2 7/8	4 1/16	1 1/32	27/32	25 1/4
2 1/16	—	OEX66A	GOEX66A	2 31/32	4 5/32	1 1/8	27/32	25 29/32
2 1/8	—	OEX68A	GOEX68A	3 1/16	4 5/16	1 1/8	7/8	26 3/8
2 3/16	—	OEX70A	GOEX70A	3 1/8	4 13/32	1 1/8	29/32	26 31/32
2 1/4	—	OEX72A	GOEX72A	3 1/32	4 9/16	1 1/8	15/16	27 9/16
2 3/8	—	OEX76A	GOEX76A	3 13/32	4 13/16	1 9/32	31/32	28 3/4
2 1/2	—	OEX80A	GOEX80A	3 19/32	5 1/16	1 9/32	1 1/32	29 29/32

ASME/ANSI B107.6-1994

6-Point Chrome Sets:

OSH713B 6-Point Set. OSH10B thru OSH32B (13 pcs) (5/16" to 1").

OSH711B 6-Point Set. OSH12B thru OSH32B (11 pcs) (3/8" to 1") in a plastic tray.

OSH709K 6-Point Set. OSH10B thru OSH24B (9 pcs) (5/16" to 3/4") in C92C Kit Bag.

OSH707B 6-Point Set. OSH12B thru OSH24B (7 pcs) (3/8" to 3/4") in a plastic tray.

12-Point Chrome Sets:

OEX724K 12-Point Set. OEX8B thru OEX52B (24 pcs) (1/4" to 1 5/8") in C2400 Kit Bag.

OEX714K 12-Point Set. OEX12B thru OEX40B (except OEX38B) (14 pcs) (3/8" to 1 1/4") in C141B Kit Bag.

OEX711BP 12-Point Set. OEX12B thru OEX32B (11 pcs) (3/8" to 1") in PB68 Plastic Box.

OEX711B 12-Point Set. OEX12B thru OEX32B (11 pcs) (3/8" to 1") in a plastic tray.

OEX709B 12-Point Set. OEX12B thru OEX28B (9 pcs) (3/8" to 7/8") in a plastic tray.

OEX709K 12-Point Set. OEX12B thru OEX28B (9 pcs) (3/8" to 7/8") in C92C Kit Bag.

OEX707B 12-Point Set. OEX12B thru OEX24B (7 pcs) (3/8" to 3/4") in a plastic tray.

OEX705 12-Point Set. OEX54A thru OEX64A (5 pcs) (1 11/16" to 2").

12-Point Industrial Finish Sets:

GOEX722K 12-Point Set. GOEX10B thru GOEX52B (22 pcs) (5/16" to 1 5/8") in C220 Kit Bag.

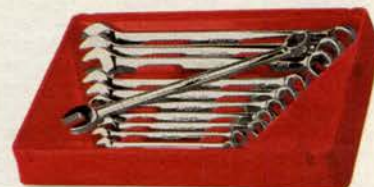
GOEX714K 12-Point Set. GOEX12B thru GOEX40B (except GOEX38B) (14 pcs) (3/8" to 1 1/4") in C141B Kit Bag.

GOEX711B 12-Point Set. GOEX12B thru GOEX32B (11 pcs) (3/8" to 1") in a plastic tray.

GOEX711K 12-Point Set. GOEX12B thru GOEX32B (11 pcs) (3/8" to 1") in C114B Kit Bag.

GOEX707B 12-Point Set. GOEX12B thru GOEX24B (7 pcs) (3/8" to 3/4") in a plastic tray.

OSH711B



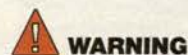
OEX711B



OEX707B



GOEX722K



WARNING

• Read additional safety precautions on pages M1 to M4.

See Warranty Information on inside front cover.

Wrenches *FLANK DRIVE*® Combination



Standard Length

mm	6	12	12	A	B	C	D	E
7	OSHM70B	—	—	11	15	5	4	135
8	OSHM80B	OEXM80B	—	13	17	6	4	146
9	OSHM90B	OEXM90B	—	14	19	6	5	159
10	OSHM100B	OEXM100B	GOEXM100B	15	21	7	5	171
11	OSHM110B	OEXM110B	GOEXM110B	17	23	8	6	184
12	OSHM120B	OEXM120B	GOEXM120B	18	25	8	6	195
13	OSHM130B	OEXM130B	GOEXM130B	20	27	9	6	207
14	OSHM140B	OEXM140B	GOEXM140B	21	29	9	7	219
15	OSHM150B	OEXM150B	GOEXM150B	22	31	10	7	231
16	OSHM160B	OEXM160B	GOEXM160B	24	33	10	7	242
17	OSHM170B	OEXM170B	GOEXM170B	25	35	11	8	256
18	OSHM180B	OEXM180B	GOEXM180B	27	37	12	8	267
19	OSHM190B	OEXM190B	GOEXM190B	28	39	12	9	280
20	—	OEXM200B	GOEXM200B	30	41	13	9	292
21	—	OEXM210B	GOEXM210B	31	43	13	10	304
22	—	OEXM220B	GOEXM220B	33	46	14	10	318
23	—	OEXM230B	GOEXM230B	34	47	14	10	327
24	—	OEXM240B	GOEXM240B	35	49	15	11	337
25	—	OEXM250B	—	37	52	16	11	356
26	—	OEXM260B	—	38	53	16	11	363
27	—	OEXM270B	—	39	55	17	12	375
29	—	OEXM290B	—	42	58	18	12	394
30	—	OEXM300B	—	44	61	19	13	413
32	—	OEXM320B	—	46	65	19	14	432
34	—	OEXM340B	—	48	68	19	14	452
36	—	OEXM360B	—	53	74	22	15	489

ASME/ANSI B107.9M-1994

6-Point Chrome Sets:

OSHM713 6-Point Set. OSHM70B thru OSHM190B (13 pcs) (7 to 19mm).

OSHM707B 6-Point Set. OSHM100B thru OSHM170B (except OSHM160B) (7 pcs) (10 to 17mm) in a plastic tray.

12-Point Chrome Sets:

OEXM725 12-Point Set. OEXM80B thru OEXM360B (25 pcs) (8 to 36mm)

OEXM723K 12-Point Set. OEXM80B thru OEXM320B (23 pcs) (8 to 32mm) in C2301 Kit Bag.

OEXM713B 12-Point Set. OEXM100B thru OEXM220B (13 pcs) (10 to 22mm) in a plastic tray.

OEXM713K 12-Point Set. OEXM100B thru OEXM220B (13 pcs) (10 to 22mm) in C1307 Kit Bag.

OEXM710B 12-Point Set. OEXM100B thru OEXM190B (10 pcs) (10 to 19mm) in a plastic tray.

OEXM710K 12-Point Set. OEXM100B thru OEXM190B (10 pcs) (10 to 19mm) in C1002A Kit Bag.

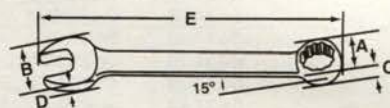
OEXM707B 12-Point Set. OEXM100B thru OEXM170B (except OEXM160B) (7 pcs) (10 to 15mm, 17mm) in a plastic tray.

12-Point Industrial Finish Sets:

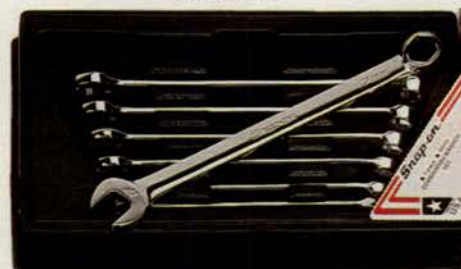
GOEXM715 12-Point Set. GOEXM100B thru GOEXM240B (15 pcs) (10 to 24mm).

GOEXM709K 12-Point Set. GOEXM100B thru GOEXM190B (except GOEXM160B) (9 pcs) (10 to 19mm) in C92C Kit Bag.

OSHM713



OSHM707B



OEXM713B



OEXM710B



OEXM707B



FLANK DRIVE® Combination Wrenches



Short Handle

		A	B	C	D	E
1/4	OEX080B	13/32	17/32	3/16	5/32	4 17/32
9/32	OEX090B	7/16	19/32	7/32	5/32	4 21/32
5/16	OEX100B	1/2	21/32	7/32	5/32	4 27/32
11/32	OEX110B	17/32	23/32	1/4	3/16	5
3/8	OEX120B	19/32	25/32	1/4	3/16	5 1/8
7/16	OEX140B	21/32	29/32	5/16	7/32	5 7/16
1/2	OEX160B	3/4	1 1/16	11/32	1/4	5 3/4
9/16	OEX180B	27/32	1 5/32	3/8	9/32	6 1/16
5/8	OEX200B	15/16	1 5/16	13/32	9/32	6 11/32
11/16	OEX220B	1 1/32	1 13/32	7/16	5/16	6 21/32
3/4	OEX240B	1 1/8	1 9/16	15/32	11/32	6 31/32
13/16	OEX260B	1 3/16	1 21/32	17/32	3/8	7 9/32
7/8	OEX280B	1 5/32	1 13/16	9/16	3/8	7 9/16
15/16	OEX300B	1 3/8	1 29/32	19/32	13/32	7 7/8
1	OEX320B	1 15/32	2 1/32	5/8	7/16	8 3/16
1 1/16	OEX340B	1 9/16	2 5/32	21/32	15/32	8 17/32
1 1/8	OEX360B	1 5/8	2 5/16	11/16	1/2	8 27/32
1 3/16	OEX380B	1 23/32	2 13/32	23/32	1/2	9 1/8
1 1/4	OEX400B	1 13/16	2 9/16	3/4	17/32	9 7/16
1 5/16	OEX420B	1 29/32	2 21/32	3/4	9/16	9 3/4
1 3/8	OEX440B	2	2 13/16	3/4	19/32	10 1/16

OEXS721 12-point Set. OEX080B thru OEX440B (21 pcs) (1/4" to 1 3/8").

OEXS715K 12-point Set. OEX080B thru OEX320B (15 pcs) (1/4" to 1") in C155 Kit Bag.

OEXS709B 12-point Set. OEX100B thru OEX240B (9 pcs) (5/16" to 3/4") in a plastic tray.

OEXS715K



OEXS709B



Short Handle

		A	B	C	D	E
6	OEXM6B	10	13	5	4	113
7	OEXM7B	11	15	5	4	118
8	OEXM8B	13	17	6	4	123
9	OEXM9B	14	19	6	5	128
10	OEXM10B	15	21	7	5	133
11	OEXM11B	17	23	8	6	138
12	OEXM12B	18	25	8	6	142
13	OEXM13B	20	27	9	6	148
14	OEXM14B	21	29	9	7	152
15	OEXM15B	22	31	10	7	157
16	OEXM16B	24	33	10	7	162
17	OEXM17B	25	35	11	8	167
18	OEXM18B	27	37	12	8	172
19	OEXM19B	28	39	12	9	177
20	OEXM20B	30	41	13	9	182
21	OEXM21B	31	43	13	9	186
22	OEXM22B	33	46	14	10	192
23	OEXM23B	34	47	14	10	197
24	OEXM24B	35	49	15	11	201

OEXSM719 12-Point Set. OEXM6B thru OEXM24B (19 pcs) (6 to 24mm).

OEXSM714K 12-Point Set. OEXM6B thru OEXM19B (14 pcs) (6 to 19mm) in C142 Kit Bag.

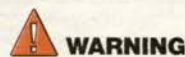
OEXSM710B 12-Point Set. OEXM10B thru OEXM19B (10 pcs) (10 to 19mm) in a plastic tray.

OEXSM708B 12-Point Set. OEXM6B thru OEXM13B (8 pcs) (6 to 13mm) in a plastic tray.

OEXSM710B



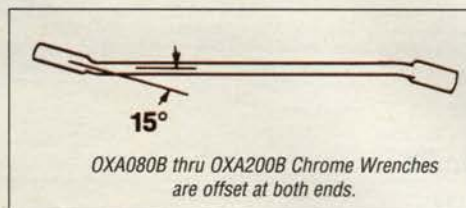
OEXSM708B



WARNING
• Read additional safety precautions on pages M1 to M4.



Wrenches *FLANK DRIVE®* Combination

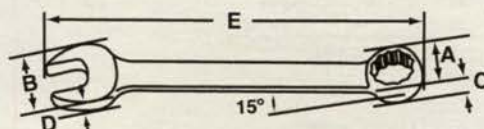


Short Handle 15° Offset

		A	B	C	D	E
1/4"	OXA080B	13/32	17/32	3/16	5/32	4 11/32
5/16"	OXA100B	1/2	21/32	7/32	5/32	4 23/32
3/8"	OXA120B	19/32	25/32	1/4	3/16	5
7/16"	OXA140B	21/32	29/32	5/16	7/32	5 5/16
1/2"	OXA160B	3/4	1 1/16	11/32	1/4	5 5/8
9/16"	OXA180B	27/32	1 5/16	3/8	9/32	5 15/16
5/8"	OXA200B	15/16	1 5/16	13/32	9/32	6 7/32

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OXA707K 6-Point Set. OXA080B thru OXA200B (7 pcs) (1/4" to 5/8") in C74D Kit Bag.



OEXL707B



OEXLM710B



Long Handle

		A	B	C	D	E
3/8"	OEXL12B	19/32	25/32	1/4	3/16	7
7/16"	OEXL14B	21/32	29/32	5/16	7/32	8
1/2"	OEXL16B	3/4	1 1/16	11/32	1/4	9
9/16"	OEXL18B	27/32	1 5/32	3/8	9/32	10
5/8"	OEXL20B	15/16	1 5/16	13/32	9/32	11
11/16"	OEXL22B	1 1/32	1 13/32	7/16	5/16	12
3/4"	OEXL24B	1 1/8	1 9/16	15/32	11/32	13
13/16"	OEXL26B	1 3/16	1 21/32	17/32	3/8	14
7/8"	OEXL28B	1 9/32	1 13/16	9/16	3/8	15
15/16"	OEXL30B	1 3/8	1 29/32	19/32	13/32	16
1"	OEXL32B	1 15/32	2 1/32	5/8	7/16	17

OEXL707B 12-Point Set. OEXL12B thru OEXL24B (7 pcs) (3/8" to 3/4") in a plastic tray.

Long Handle

mm		A	B	C	D	E
10	OEXLM10B	15	21	7	5	186
11	OEXLM11B	17	23	8	6	203
12	OEXLM12B	18	25	8	6	218
13	OEXLM13B	20	27	9	6	234
14	OEXLM14B	21	29	9	7	250
15	OEXLM15B	22	31	10	7	266
16	OEXLM16B	24	33	10	7	282
17	OEXLM17B	25	35	11	8	298
18	OEXLM18B	27	37	12	8	314
19	OEXLM19B	28	39	12	9	330

OEXLM710B 12-Point Set. OEXLM10B thru OEXLM19B (10 pcs) (10 to 19mm) in a plastic tray.

FLANK DRIVE® Combination Wrenches



OXI706B



OXI709SBK



Midget

11	6	12	A	B	C	D	E
1/8	OXI4SB*	—	7/32	11/32	1/8	1/8	2 11/16
5/32	OXI5SB*	—	9/32	13/32	5/32	1/8	2 27/32
3/16	OXI6SB*	OXI6B*	5/16	7/16	5/32	1/8	2 31/32
7/32	OXI7SB	OXI7B	3/8	1/2	3/16	1/8	3 3/32
1/4	OXI8SB	OXI8B	13/32	17/32	3/16	5/32	3 7/32
9/32	OXI9SB	OXI9B	7/16	19/32	7/32	5/32	3 3/8
5/16	OXI10SB	OXI10B	1/2	21/32	7/32	5/32	3 1/2
11/32	OXI11SB	OXI11B	17/32	23/32	1/4	3/16	3 5/8
3/8	OXI12SB	OXI12B	19/32	25/32	1/4	3/16	3 3/4
7/16	—	OXI14B	21/32	29/32	5/16	7/32	4 1/32
1/2	—	OXI16B	3/4	1 1/16	11/32	1/4	4 9/32
9/16	—	OXI18B	27/32	1 5/32	3/8	9/32	4 17/32
5/8	—	OXI20B	15/16	1 5/16	13/32	9/32	4 13/16
11/16	—	OXI22B	1 1/32	1 13/32	7/16	5/16	5 1/16
3/4	—	OXI24B	1 1/8	1 9/16	15/32	11/32	5 11/32

ASME/ANSI B107.6-1994

*Conventional hex

OXI709SBK 6-Point Set. OXI4SB thru OXI12SB (9 pcs) (1/8" to 3/8") in C90 Kit Bag.

OXI707BK 6-Point Set. OXI6B thru OXI12B (7 pcs) (3/16" to 3/8") in C700 Kit Bag.

OXI706B 6-Point Set. OXI14B thru OXI24B (6 pcs) (7/16" to 3/4") in a plastic tray.

OXI715 6-Point Set. OXI4SB and OXI5SB 6-Point Wrenches and OXI6B thru OXI24B 12-Point Wrenches (15 pcs) (1/8", 5/32", 3/16" to 3/4").

Midget

mm	6	12	A	B	C	D	E
4	OXIM4SB*	—	7	10	4	3	72
5	OXIM5SB*	—	8	12	4	3	76
5.5	OXIM5.5SB	—	9	13	4	4	79
6	OXIM6SB	OXIM6B	10	13	5	4	81
7	OXIM7SB	OXIM7B	11	15	5	4	85
8	OXIM8SB	OXIM8B	13	17	6	4	89
9	OXIM9SB	OXIM9B	14	19	6	5	93
10	—	OXIM10B	15	21	7	5	98
11	—	OXIM11B	17	23	8	6	102
12	—	OXIM12B	18	25	8	6	106
13	—	OXIM13B	20	27	9	6	110
14	—	OXIM14B	21	29	9	7	115
15	—	OXIM15B	22	31	10	7	119
16	—	OXIM16B	24	33	10	7	122
17	—	OXIM17B	25	35	11	8	127
18	—	OXIM18B	27	37	12	8	131
19	—	OXIM19B	28	39	12	9	136

ASME/ANSI B107.9M-1994

*Conventional hex

OXIM707SBK 6-Point Set. OXIM4SB thru OXIM9SB (7 pcs) (4 to 9mm) in C700 Kit Bag.

OXIM717 6/12-Point Set. OXIM4SB thru OXIM5.5SB 6-Point Wrenches and OXIM6B thru OXIM19B 12-Point Wrenches (17 pcs) (4 to 5.5mm, 6 to 19mm).

OXIM710B 12-Point Set. OXIM10B thru OXIM19B (10 pcs) (10 to 19mm) in a plastic tray.

FLANK DRIVE® Combination Box / Ratcheting Open End

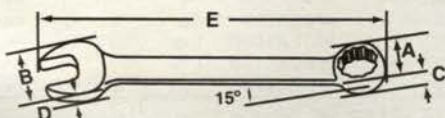
Open end design permits quick, ratcheting action in tight access areas without removing the wrench from the fastener. Box end features a 15-degree offset to increase knuckle clearance and the FLANK DRIVE® wrenching system. U.S. Patent Number 5,551,322.



Box / Ratcheting Open End

11	12	A	B	C	D	E
5/16	SRX10	1/2	5/8	1/4	5/32	5 1/2
3/8	SRX12	19/32	13/16	9/32	3/16	6 5/16
7/16	SRX14	21/32	29/32	5/16	7/32	6 29/32
1/2	SRX16	25/32	1 1/32	11/32	1/4	7 11/16
9/16	SRX18	27/32	1 1/8	3/8	1/4	8 5/16
5/8	SRX20	15/16	1 1/4	7/16	9/16	9 3/32
3/4	SRX24	1 1/8	1 17/32	1/2	11/32	10 19/32

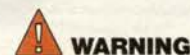
SRX707 12 Point Set. SRX10 thru SRX24 (7 pcs) (5/16" to 3/4") in plastic tray.



Box / Ratcheting Open End

mm	12	A	B	C	D	E
10	SRXM10	15	20	7	5	160
11	SRXM11	17	23	8	5	175
12	SRXM12	18	25	8	5	185
13	SRXM13	20	26	9	6	196
14	SRXM14	21	28	10	6	211
15	SRXM15	22	31	11	7	221
16	SRXM16	24	32	11	8	231
17	SRXM17	25	35	12	8	249
18	SRXM18	27	37	12	9	257
19	SRXM19	28	39	13	9	269

SRXM707 12-Point Set. SRXM10 thru SRXM17 (except SRXM16) (7 pcs) (10 to 15 mm, 17mm) in plastic tray.



WARNING
• Read additional safety precautions on pages M1 to M4.



Wrenches

Blue-Point® Combination Ratcheting Box / Open End



BOER708



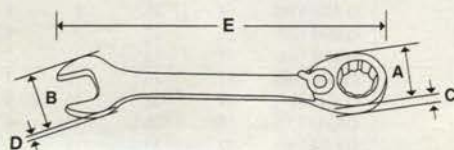
BOERM712



Standard Length 12° Offset

11	12	A	B	C	D	E
5/16	BOER10	1 1/16	1 1/16	1/4	5/32	5 5/16
3/8	BOER12	27/32	7/8	5/16	3/16	6 5/16
7/16	BOER14	7/8	15/16	11/32	7/32	6 11/16
1/2	BOER16	31/32	1 1/32	13/32	1/4	7 1/16
9/16	BOER18	1 1/16	1 3/16	13/32	1/4	7 1/2
5/8	BOER20	1 3/16	1 5/16	7/16	9/32	8 1/4
11/16	BOER22	1 1/4	1 7/16	15/32	9/32	9 1/16
3/4	BOER24	1 7/16	1 17/32	1/2	11/32	9 13/16

BOER708 12-Point Set. BOER10 thru BOER24 (8 pcs) (5/16" to 3/4").



Standard Length 12° Offset

mm	12	A	B	C	D	E
8	BOERM8	17.8	17.7	6.5	4.0	135
9	BOERM9	19.5	20.0	7.4	4.0	150
10	BOERM10	21.5	21.9	8.0	5.0	160
11	BOERM11	22.0	23.9	8.5	5.5	170
12	BOERM12	23.5	25.0	9.0	5.5	175
13	BOERM13	25.0	25.9	10.0	6.3	180
14	BOERM14	27.0	29.9	10.0	6.5	190
15	BOERM15	28.5	31.1	11.0	7.0	200
16	BOERM16	30.5	33.6	11.0	7.0	210
17	BOERM17	32.0	36.5	12.0	7.0	230
18	BOERM18	34.5	38.5	12.0	8.0	240
19	BOERM19	36.5	38.7	12.9	8.7	250

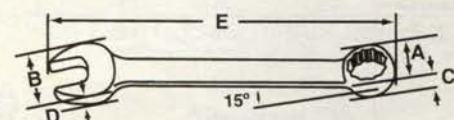
BOERM712 12-Point Set. BOERM8 thru BOERM19 (12 pcs) (8mm to 19mm).



Short Handle 12° Offset

11	12	A	B	C	D	E
5/16	BOERS10	1 1/16	1 1/16	1/4	5/32	3 9/16
3/8	BOERS12	27/32	7/8	5/16	3/16	3 15/16
7/16	BOERS14	7/8	15/16	11/32	7/32	4 1/8
1/2	BOERS16	31/32	1 1/32	13/32	1/4	4 1/2
9/16	BOERS18	1 1/16	1 3/16	13/32	1/4	4 3/4
5/8	BOERS20	1 3/16	1 5/16	7/16	9/32	5 1/16
11/16	BOERS22	1 1/4	1 7/16	15/32	9/32	5 3/16
3/4	BOERS24	1 7/16	1 17/32	1/2	11/32	5 9/16

BOERS708 12-Point Set. BOERS10 thru BOERS24 (8 pcs) (5/16" to 3/4").



Short Handle 12° Offset

mm	12	A	B	C	D	E
8	BOERMS8	17.8	17.7	6.5	4.0	90
9	BOERMS9	19.5	20.0	7.4	4.0	95
10	BOERMS10	21.5	21.9	8.0	5.0	100
11	BOERMS11	22.0	23.9	8.5	5.5	105
12	BOERMS12	23.5	25.0	9.0	5.5	110
13	BOERMS13	25.0	25.9	10.0	6.3	115
14	BOERMS14	27.0	29.9	10.0	6.5	120
15	BOERMS15	28.5	31.1	11.0	7.0	125
16	BOERMS16	30.5	33.6	11.0	7.0	128
17	BOERMS17	32.0	36.5	12.0	7.0	132
18	BOERMS18	34.5	38.5	12.0	8.0	138
19	BOERMS19	36.5	38.7	12.9	8.7	142

BOERMS712 12-Point Set. BOERMS8 thru BOERMS19 (12 pcs) (8mm to 19mm).

British Standard

Short Handle Combination


BS	Decimal Wrench Specs.	12	A	B	C	D	E
3/16	.338	WOEX6B	25/32	19/32	3/16	1/4	5 3/32
1/8	.365	WOEX70B	25/32	19/32	3/16	1/4	5 1/8
9/16	.413	WOEX80B	25/32	21/32	7/32	5/16	5 13/32
1/4	.445	WOEX90B	25/32	21/32	7/32	5/16	5 15/32
5/16	.525	WOEX100B	1 5/32	27/32	9/32	3/8	6 1/32
3/8	.600	WOEX110B	1 5/16	19/16	9/32	13/16	6 11/32
7/16	.710	WOEX120B	1 5/16	1 1/32	5/16	7/16	6 23/32

WOEXS707K 12-Point Set. WOEX6B thru WOEX120B (7 pcs) (3/16" to 7/16") in C74D Kit Bag.

FLANK DRIVE® Offset Box Wrenches



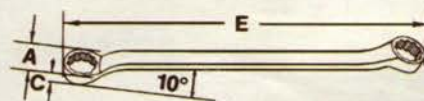
Standard Length, 10° Offset

	12	A	C	E
3/8-7/16	XB1214A	9/16-21/32	9/32-5/16	7 19/32
7/16-1/2	XB1416A	21/32-3/4	5/16-11/32	7 15/16
1/2-9/16	XB1618A	23/32-13/16	11/32-3/8	8 21/32
9/16-5/8	XB1820A	13/16-29/32	3/8-13/32	9 13/32
5/8-11/16	XB2022A	29/32-1	7/16-19/32	10 9/32
11/16-3/4	XB2224A	1-1 1/16	15/32-1/2	10 15/16
3/4-13/16	XB2426A	1 1/16-1 5/32	1/2-17/32	11 21/32
7/8-15/16	XB2830A	1 1/4-1 11/32	17/32-9/16	13 1/8
15/16-1	XB3032A	1 11/32-1 13/32	9/16-19/32	13 7/8
1-1 1/16	XB3234A	1 13/32-1 1/2	19/32-5/8	14 19/32
1 1/16-1 1/4	XB3440A	1 1/2-1 3/4	5/8-23/32	16 3/32
1 1/8-1 3/16	XB3638A	1 9/32-1 21/32	21/32-11/16	16 3/32
1 1/4-1 5/16	XB4042A	1 3/4-1 27/32	23/32-3/4	17 19/32
1 3/8-1 7/16	XB4446A	1 31/32-2 11/16	3/4-29/32	19 1/8
1 1/2-1 5/8	XB4852A	2 3/32-2 9/32	13/16-7/8	20 15/16


ASME/ANSI B107.6-1994

XB605A 12-Point Set. XB1214A, XB1618A, XB2022A, XB2426A, and XB2830A (5 pcs) (3/8" to 15/16") in a plastic tray.

XB605A

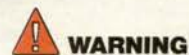


Standard Length, 10° Offset

	6	12	A	C	E
8-10	—	XBM810A	12.3-15	6.7-7.7	185
10-11	—	XBM1011A	15-16.4	7.7-8.3	202
10-12	—	XBM1012A	15-17.7	7.7-8.8	208
11-13	—	XBM1113A	16.4-19.1	8.3-9.3	219
12-14	XBM1214SA	XBM1214A	17.7-20.4	8.8-9.7	230
13-15	XBM1315SA	XBM1315A	19.1-21.8	9.3-10.2	241
14-15	XBM1415SA	—	20.4-21.8	9.7-10.2	247
14-17	—	XBM1417A	20.4-24.5	9.8-11.4	248
16-18	XBM1618SA	XBM1618A	23.1-25.8	10.9-11.9	275
17-19	XBM1719SA	XBM1719A	24.5-27.2	11.4-12.3	286
18-21	—	XBM1821A	25.9-29.9	11.9-13.3	303
19-22	—	XBM1922A	27.2-31.3	12.3-13.7	314
22-24	—	XBM2224A	31.3-34	13.7-14.7	342
27-30	—	XBM2730A	38.1-42.2	16-17.3	404
30-32	—	XBM3032A	42.2-45	17.3-18.2	432

XB605A 12-Point Set. XBM1011A, XBM1214A, XBM1315A, XBM1618A, and XBM1719A (5 pcs) (10 to 19mm) in a plastic tray.

XB605A



WARNING

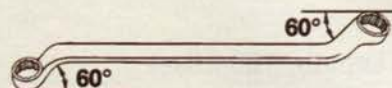
• Read additional safety precautions on pages M1 to M4.



Wrenches *FLANK DRIVE®* Offset Box



Heads of XO, XOM, XSO and XSOM wrenches are deeply offset at 60° angle to the handles so recessed fasteners may be easily reached.



Standard Length, Deep 60° Offset

11	12	A	B	C
1/4-5/16	XO810	3/8	9/32 (1/4 - 9/32)	6 13/32
5/16-3/8	XO1012	15/32-9/16	9/32	7
3/8-7/16	XO1214	9/16-5/8	5/16	7 19/32
7/16-1/2	XO1416	5/8 - 23/32	11/32	8 3/16
1/2-9/16	XO1618	23/32 - 13/16	11/32	8 25/32
9/16-5/8	XO1820	13/16-29/32	13/32	9 3/8
5/8-11/16	XO2022	29/32-1	13/32	9 15/16
5/8-3/4	XO2024	29/32-1 3/32	7/16	10 1/4
11/16-13/16	XO2226	1 - 1 5/32	15/32	10 27/32
3/4-7/8	XO2428	1 3/32-1 1/4	1/2	11 13/32
7/8-15/16	XO2830	1 1/4-1 11/32	17/32	12 31/32
15/16-1	XO3032	1 11/32-1 7/16	9/16	13 15/16

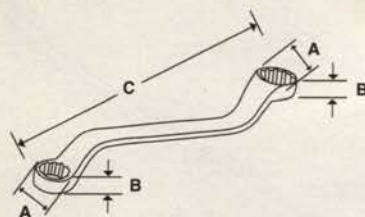
ASME/ANSI B107.6-1994

XO605 12-Point Set. XO1214, XO1618, XO1820, XO2226, and XO2428 (5 pcs) (3/8" to 7/8") in a plastic tray.

Standard Length, Deep 60° Offset

mm	12	A	B	C
8-10	XOM810	11.7-14.2	6.9-7.3	178.1
10-11	XOM1011	15-16.3	7.6	193
12-14	XOM1214	15-20.3	9	210
13-15	XOM1315	16.3-21.2	8.9	223
16-18	XOM1618	17.7-25.4	10.8	253
17-19	XOM1719	17.7-27.4	11.1	260

XOM605 12-Point Set. XOM1011 thru XOM1719 (5 pcs) (10 to 19mm) in a plastic tray.



Short Handled, Deep 60° Offset

11	12	A	B	C
1/4-5/16	XSO810A	3/8-7/16	3/16-7/32	4 9/32
5/16-3/8	XSO1214A	17/32-5/8	1/4-9/32	4 13/16
1/2-9/16	XSO1618A	23/32-25/32	5/16-11/32	5 1/2
5/8-3/4	XSO2024A	7/8-1 1/32	3/8-7/16	6 15/32
11/16-13/16	XSO2226A	31/32-1 1/8	13/32-15/32	7 1/32

ASME/ANSI B107.6-1994

XSO605A 12-Point Set. XSO810A thru XSO2226A (8 pcs) (1/4" to 13/16") in a plastic tray.

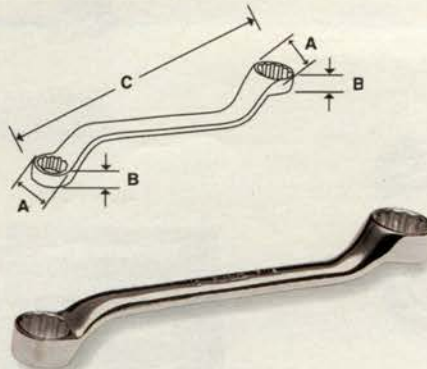
Short Handled, Deep 60° Offset

mm	12	A	B	C
6-7	XSOM67	10.0-11.4	4.5-5.0	98
8-9	XSOM89	11.8-13.8	5.9-6.8	114
10-11	XSOM1011	14.5-16.0	6.8-7.5	122
12-13	XSOM1213	16.8-18.8	7.5-8.3	131
14-15	XSOM1415	20.3-22.1	9.1-9.9	148
16-19	XSOM1619	22.5-26.7	9.9-11.5	164
17-20	XSOM1720	24.7-28.8	10.7-12.3	179
18-22	XSOM1822	27.4-32.0	13.0-13.0	195

ASME/ANSI B107.6-1994

XSOM608 12-Point Set. XSOM67 thru XSOM1822 (8 pcs) (6 to 22mm) in plastic tray.


XS609A



XSM608A




Short Handle, 10° Offset

	12	A	B	C
3/16 - 7/32	XS67A	5/16 - 11/32	7/32 - 7/32	3 27/32
1/4 - 9/16	XS810A	13/32 - 15/32	1/4 - 9/32	4 1/4
5/16 - 3/8	XS1012A	15/32 - 9/16	9/32 - 5/16	4 9/16
3/8 - 7/16	XS1214A	9/16 - 21/32	5/16 - 11/32	4 29/32
7/16 - 1/2	XS1416A	21/32 - 3/4	11/32 - 11/32	5 3/16
1/2 - 9/16	XS1618A	3/4 - 13/16	3/8 - 3/8	5 17/32
9/16 - 5/8	XS1820A	13/16 - 29/32	13/32 - 7/16	5 7/8
5/8 - 3/4	XS2024A	29/32 - 1 1/16	7/16 - 1/2	6 3/8
11/16 - 13/16	XS2226A	1 - 1 5/32	15/32 - 17/32	6 23/32

XS609A 12-Point Set. XS67A thru XS2226A (9 pcs) (3/16" to 13/16") in a plastic tray.


Short Handle, 10° Offset

	12	A	B	C
6-7	XSM67A	9.6 - 10.9	5.7 - 6.2	86
8-9	XSM89A	12.3 - 13.7	6.7 - 7.2	103
8-10	XSM810	12.3 - 15	6.7 - 7.7	107
9-10	XSM910A	13.7 - 15	7.2 - 7.7	112
11-12	XSM1112A	16.4 - 17.7	8.3 - 8.8	128
13-14	XSM1314A	19.1 - 20.4	9.3 - 9.8	146
15-16	XSM1516A	21.8 - 23.1	10.2 - 10.9	163
17-19	XSM1719A	24.5 - 27.2	11.4 - 12.3	185
18-20	XSM1820A	25.9 - 28.6	11.9 - 12.8	194

XSM608A 12-Point Set. XSM67A, thru XSM1820A except XSM810 (8 pcs) (6 to 20mm) in a plastic tray.



Midget, 10° Offset

	12	A	B	C
3/16 - 13/64	XID1213A*	5/16 - 11/32	1/8 - 5/32	2 13/16
7/32 - 15/64	XID1415A*	3/8 - 3/8	5/32 - 5/32	3 1/16
1/4 - 9/32	XID1618A	13/32 - 7/16	5/32 - 3/16	3 13/32
5/16 - 11/32	XID2022A	15/32 - 1/2	3/16 - 7/32	3 31/32

ASME/ANSI B107.6-1994

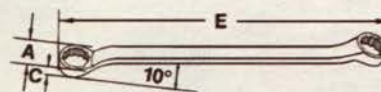
* Conventional hex

XID604KA 12-Point Set. XID1213 thru XID2022 (4 pcs) (3/16" to 11/32") in C41E Kit Bag.

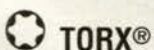



XID604

TORX® Box



XLE605



		A	C	E
E5-E6	XLE56	9/32-5/16	5/32-3/16	6 13/32
E7-E8	XLE78	11/32-3/8	7/32-7/32	7 7/32
E10-E12	XLE1012A	15/32-17/32	1/4-5/16	8 7/8
E14-E16	XLE1416	5/8-23/32	11/32-11/32	10 7/16
E18-E20	XLE1820	13/16-7/8	13/32-7/16	12 3/8

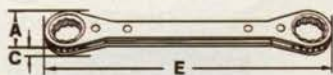
XLE605 Set. XLE56 thru XLE1820 (5 pcs) (E5 to E20) in a plastic tray.



WARNING
• Read additional safety precautions on pages M1 to M4.



Wrenches *FLANK DRIVE*® Ratcheting Box




RBM604S

RBM604



Standard Length, 0° Offset

	6	12	A	C	E
1/4-5/16	R810SA	R810B	9/16-5/8	1 1/32	4 11/16
5/16-11/32	—	R1011A	5/8-3/4	1 1/32	5 3/8
5/16-3/8	—	R1012A	5/8-3/4	1 1/32	5 3/8
3/8-7/16	R1214SA	R1214B	3/4-7/8	1 1/32	6 5/32
1/2-9/16	R1618SA	R1618A	15/16-1	1 1/32	7
5/8-11/16	—	R2022A	1 1/8-1 1/4	1 1/32	7 27/32
5/8-3/4	—	R2024A	1 1/8-1 1/4	1 1/32	7 27/32
3/4-13/16	—	R2426A	1 3/8-1 1/2	7/16	7 29/32
3/4-7/8	—	R2428A	1 3/8-1 1/2	7/16	8 25/32
7/8-15/16	—	R2830A	1 1/2-1 9/16	7/16	9 25/32
15/16-1	—	R3032A	1 9/16-1 11/16	7/16	10
1 1/16-1 1/8	—	R3436A	2-2	9/16	12 3/4
1 1/8-1 1/4	R3640SA	—	2 3/32-2 3/32	9/16	12 13/16
1 3/16-1 1/4	—	R3840A	2-2	9/16	15 1/8

RB606BK 12-Point Set. R810B, R1214B, R1618A, R2022A, R2426A, and R2830A (6 pcs) (1/4" to 15/16") in C62B Kit Bag.

RB604 12-Point Set. R1214B, R1618A, R2022A, and R2428A (4 pcs) (3/8" to 7/8") in a plastic tray.

Standard Length, 0° Offset

	6	12	A	C	E
7-8	RBM78SA	RBM78A	14.3-15.9	8.6-8.6	118.8
8-10	—	RBM810	17.5-19.1	8.6-8.6	136.6
9-10	—	RBM910A	17.5-19.1	8.6-8.6	136.6
10-11	RBM1011SA	RBM1011A	19.1-22.4	8.6-8.6	156.5
10-12	—	RBM1012	23.8-25.4	10.3-10.3	177.1
12-13	RBM1213SA	RBM1213A	23.9-25.4	10.3-10.3	177.1
12-14	—	RBM1214	23.9-25.4	10.3-10.3	177.1
14-15	RBM1415SA	RBM1415A	28.4-31.8	10.3-10.3	199.2
14-17	—	RBM1417	28.4-31.8	10.3-10.3	199.2
16-18	—	RBM1618A	31.8-28.4	10.2-10.2	199.2
17-19	RBM1719SA	RBM1719A	34.8-38.1	11.2-11.2	223.1

RBM604S 6-Point Set. RBM1011SA, RBM1213SA, RBM1415SA, and RBM1719SA (4 pcs) (10 to 19mm) in a plastic tray.

RBM604 12-Point Set. RBM1011A, RBM1213A, RBM1415A, and RBM1719A (4 pcs) (10 to 19mm) in a plastic tray.



RBZ605




RBZM605




Latch-On™ head keeps the wrench on the fastener. Ring prevents the nut/fastener from sliding through the wrench.

Blue-Point® Latch-On Head™, 0° Offset

	12	A	C	E
1/4 - 5/16	RBZ810	19/32 - 11/16	3/8	4 1/2
3/8 - 7/16	RBZ1214	13/16 - 29/32	3/8	5 1/2
1/2 - 9/16	RBZ1618	1 1/32 - 1 3/32	1/2	6 7/8
5/8 - 11/16	RBZ2022	1 5/16 - 1 7/16	1/2	8 1/8
3/4 - 7/8	RBZ2428	1 13/32 - 1 19/32	1/2	9 1/4

RBZ605 12-Point Set. RBZ810 thru RBZ2428 (5 pcs) (1/4"-5/16" to 3/4"-7/8").

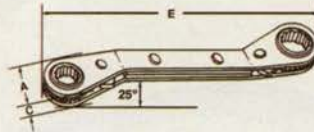
Blue-Point® Latch-On Head™, 0° Offset

	12	A	C	E
7 - 8	RBZM78	15.1 - 17.1	9.5	114.3
9 - 10	RBZM910	20.4 - 22.6	9.5	140.3
11 - 12	RBZM1112	25.8 - 29.4	12.7	174.6
13 - 14	RBZM1314	25.8 - 29.4	12.7	174.6
15 - 17	RBZM1517	32.9 - 36.5	12.7	206.4
16 - 18	RBZM1618	32.9 - 36.5	12.7	206.4
19 - 21	RBZM1921	35.7 - 40.1	12.7	234.9

RBZM605 12-Point Set. RBZM78, RBZM910, RBZM1112, RBZM1314 and RBZM1517 (5 pcs) (7-8mm to 15-17mm).

FLANK DRIVE® Ratcheting Box Wrenches

RBYA605



RBYAM605



Blue-Point® Standard Length, 25° Offset

12		A	C	E
1/4-5/16	RYA810	9/16-5/8	1 1/32	4 9/32
5/16-11/32	RYA1011	19/32-11/16	3/8	4 1/32
3/8-7/16	RYA1214	3/4-7/8	11/32	6 3/32
1/2-9/16	RYA1618	15/16-1	13/32	6 31/32
5/8-11/16	RYA2022	1 1/8-1 1/4	13/32	7 27/32
3/4-7/8	RYA2428	1 3/8-1 1/2	7/16	8 5/8

RBYA605 12-Point Set. RYA810 thru RYA2428 (except RYA1011) (5 pcs) (1/4" to 7/8") in a plastic tray.

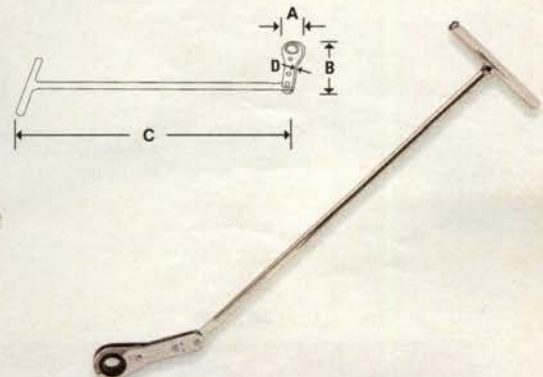
Blue-Point® Standard Length, 25° Offset

mm	12	A	C	E
7-8	RYAM78	15.5-16.3	9.5	105.2
9-10	RYAM910	19.8-22.6	9.5	134.5
11-12	RYAM1112	25.4-29	12.7	165.9
13-14	RYAM1314	25.4-29	12.7	165.9
15-17	RYAM1517	33-36.5	12.7	197.2
16-18	RYAM1618	33-36.5	12.7	197.2
19-21	RYAM1921	35.7-40.1	12.7	224.2

RBYAM605 Metric 12-Point Set. RYAM78 thru RYAM1517 (5 pcs) (7 to 17mm) in a plastic tray.



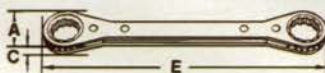
RTBM605



T-Handle

12		A	B	C	D
1/4	RTB8	11/16	2 13/16	12 3/32	3/8
5/16	RTB10	11/16	2 13/16	12 3/32	3/8
11/32	RTB11	29/32	3	12 3/32	3/8
3/8	RTB12	29/32	3	12 3/32	3/8
7/16	RTB14	29/32	3	12 3/32	3/8
1/2	RTB16	1 5/32	3 13/32	12 5/32	1/2
9/16	RTB18	1 5/32	3 13/32	12 5/32	1/2

RTB607 12-Point set. RTB8 thru RTB18 (7 pcs) (1/4" to 9/16") in a plastic tray.



Composite

No conductive path to user. No insulation to puncture, tear or wear through. Strong as steel. Every tool is individually tested to ensure protection up to 1000VAC and 1500VDC. Only Snap-on® non-conductive tools are UL classified assuring the user compliance to IEC60900. This mean UL inspects and audits to ensure complete compliance with IEC60900. Lifetime warranty for material and workmanship. U.S. Patent 5,259,277 applies.

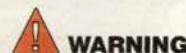
12		A	C	E
9/16-3/4	CRB1824	1 9/16-1 13/16	5/8-5/8	9 1/16

T-Handle

mm	12	A	B	C	D
8	RTBM8	17.5	71.4	307.2	9.5
10	RTBM10	23.0	76.2	307.2	9.5
12	RTBM12	29.4	86.5	308.8	12.7
13	RTBM13	29.4	86.5	308.8	12.7
14	RTBM14	29.4	86.5	308.8	12.7
15	RTBM15	36.8	98.6	308.8	12.7
16	RTBM16	36.8	98.6	308.8	12.7
17	RTBM17	36.8	98.6	308.8	12.7
18	RTBM18	36.8	98.6	308.8	12.7
19	RTBM19	36.8	98.6	308.8	12.7

RTBM605 12-Point Set. RTBM8 thru RTBM14 (5 pcs) (8 to 14mm) in a plastic tray.

RTBM505 12-Point Set. RTBM15 thru RTBM19 (5 pcs) (15 to 19mm) in a plastic tray.



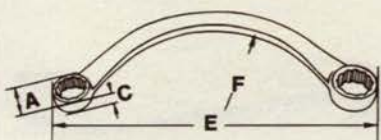
WARNING

- Frequently inspect, clean, and lubricate ratchet mechanism with light oil.
- Read additional safety precautions on pages M1 to M4.



Wrenches *FLANK DRIVE*® Specialty Box


CX605



CXM605




Half Moon

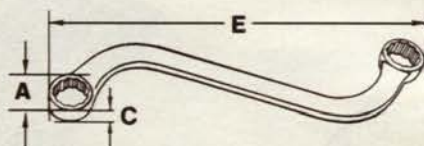
	12	A	C	E	F
5/16-3/8	CX1012	15/32-9/16	3/16-5/16	4 5/8	2 1/16
7/16-1/2	CX1416	5/8-23/32	5/16-5/16	5	2 7/32
9/16-5/8	CX1820	13/16-7/8	11/32-3/8	6 1/2	2 9/16
5/8-3/4	CX2024	7/8-1 1/32	13/32-7/16	7 3/4	3 1/16
11/16-13/16	CX2226	31/32-1 9/32	13/32-15/32	8 1/2	3 1/2
7/8-15/16	CX2830	1 1/4-1 1/32	9/16-9/16	10	4 1/16

CX605 12-Point Set. CX1416 thru CX2830 (5 pcs) (7/16" to 15/16").

Half Moon

	12	A	C	E	F
10-12	CXM1012	15-17	6-7	128	48
11-13	CXM1113	16-18	8-8	144	57
14-17	CXM1417	20-23	9-9	166	65
15-19	CXM1519	22-27	10-11	198	78
18-21	CXM1821	27-31	11-13	224	86

CXM605 Metric 12-Point Set. CXM1012 thru CXM1821 (5 pcs) (10 to 21mm).




SBX605



SBXM605




"S" Shaped

	12	A	C	E
5/16-3/8	SBX1012	15/32-9/16	9/16-7/32	3 3/4
7/16-1/2	SBX1416	21/32-3/4	9/32-5/16	5 9/16
9/16-5/8	SBX1820	27/32-15/16	11/32-13/32	6 7/8
11/16-3/4	SBX2224	1 1/32-1 1/32	13/32-15/32	8 7/16
13/16-7/8	SBX2628	1 7/32-1 5/16	17/32-9/16	10

SBX605 12-Point Set. SBX1012 thru SBX2628 (5 pcs) (5/16" to 7/8") in a plastic tray.

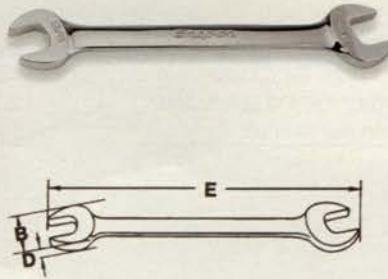
"S" Shaped

	12	A	C	E
10-12	SBXM1012	14-18	6-8	140
11-13	SBXM1113	16-19	7-8	155
14-15	SBXM1415	21-22	9-9	190
16-18	SBXM1618	24-27	10-11	173
17-19	SBXM1719	25-28	10-12	240

SBXM605 Metric 12-Point Set. SBXM1012 thru SBXM1719 (5 pcs) (7 to 17mm) in a plastic tray.

Open End Wrenches



VO806B



VOM811K



Standard Length

			B	D	E
1/4-3/16	VO810B	17/32-21/32	5/32-5/32	4 1/16	
5/16-3/8	VO1012B	21/32-25/32	5/32-3/16	4 21/32	
3/8-7/16	VO1214B	25/32-29/32	3/16-7/32	5 5/16	
7/16-1/2	VO1416B	29/32-1 1/16	7/32-1/4	5 15/16	
1/2-9/16	VO1618B	1 1/16-1 5/32	1/4-9/32	6 19/32	
9/16-5/8	VO1820B	1 5/32-1 5/16	9/32-9/32	7 9/32	
5/8-11/16	VO2022B	1 5/16-1 7/16	9/32-5/16	7 15/16	
5/8-3/4	VO2024B	1 5/16-1 9/16	9/32-11/32	8 9/32	
11/16-3/4	VO2224B	1 13/32-1 9/16	5/16-11/32	8 5/8	
3/4-13/16	VO2426B	1 9/16-1 21/32	11/32-3/8	9 11/32	
3/4-7/8	VO2428B	1 9/16-1 13/16	11/32-3/8	9 21/32	
13/16-7/8	VO2628B	1 21/32-1 13/16	3/8-3/8	10 1/32	
7/8-15/16	VO2830B	1 13/16-1 29/32	3/8-13/32	10 3/4	
15/16-1	VO3032B	1 29/32-2 1/32	13/32-13/32	11 15/32	
1 11/16	VO3234B	2 1/32-2 5/32	13/32-7/16	12 7/32	
1 1/16-1 1/4	VO3440B	2 5/32-2 17/32	7/16-1/2	12 15/16	
1 1/8-1 3/16	VO3638B	2 5/16-2 13/32	7/16-15/32	13 23/32	
1 1/4-1 5/16	VO4042B	2 17/32-2 21/32	1/2-1/2	15 1/4	
1 3/8-1 7/16	VO4446B	2 13/16-2 29/32	17/32-17/32	16 7/8	
1 1/2-1 5/8	VO4852B	3 1/16-3 5/16	9/16-19/32	18 29/32	

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VO820K Set. VO810B thru VO4852B (except VO1922B) (20 pcs)

(1/4" to 1 5/8") in C200 Kit Bag.

VO812K Set. VO810B thru VO3032B (except VO1922B, VO2024B, and VO2428B) (12 pcs) (1/4" to 1") in C124 Kit Bag.

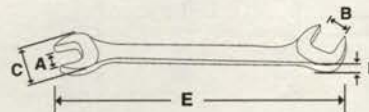
VO806B Set. VO810B, VO1214B, VO1618B, VO2022B, VO2426B, and VO2830B (6 pcs) (1/4" to 15/16") in a plastic tray.

Standard Length

			B	D	E
6-7	VOM67B	13-15	4-4	97	
7-8	VOM78B	15-17	4-4	106	
8-10	VOM810B	17-21	4-5	121	
9-10	VOM910B	19-21	5-5	126	
10-11	VOM1011B	21-23	5-6	136	
11-13	VOM1113B	23-27	6-6	151	
12-13	VOM1213B	25-27	6-6	157	
12-14	VOM1214B	25-29	6-7	162	
14-15	VOM1415B	29-31	7-7	178	
16-18	VOM1618B	33-37	7-8	205	
17-19	VOM1719B	35-38	8-9	216	
19-22	VOM1922B	39-46	9-10	245	
21-24	VOM2124B	43-49	9-10	267	
22-24	VOM2224B	46-49	10-10	273	
24-27	VOM2427B	49-55	10-11	302	
27-30	VOM2730B	55-61	11-12	338	
30-32	VOM3032B	61-65	12-12	368	

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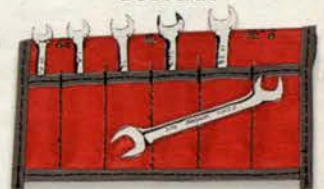
VOM811K Metric Set. VOM67B, VOM810B, VOM1113B, VOM1214B, VOM1415B, VOM1618B, VOM1719B, VOM1922B, VOM2124B, VOM2730B, and VOM3032B (11 pcs) (6 to 32mm) in C116B Kit Bag.



DS809K



DS806AK



Ignition, 15°/60° Offsets

A	B		C	D	E
1/8	1/8	DS88A	5/16-5/16	1/8	2 29/32
5/32	5/32	DS1010A	3/8-3/8	1/8	2 7/8
3/16	3/16	DS1212A	13/32-13/32	1/8	3 1/8
15/64	1/4	DS1516A	15/32-1/2	1/8	3 1/4
1/4	15/64	DS1615A	1/2-15/32	1/8	3 13/32
9/32	5/16	DS1820A	9/16-19/32	1/8	3 1/2
5/16	9/32	DS2018A	19/32-9/16	1/8	3 21/32
11/32	3/8	DS2224A	21/32-23/32	5/32	3 3/4
3/8	11/32	DS2422A	23/32-21/32	5/32	3 3/4

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DS809K Set. DS88A thru DS2422A (9 pcs) (1/8" to 3/8") in C90 Kit Bag.

DS806AK Set. DS1516A thru DS2422A (6 pcs) (15/64" to 3/8") in C65D Kit Bag.

Ignition, 15°/60° Offsets

A	B		C	D	E
3.2	5.5	DSM3.25.5	8-11	3	74
5.5	3.2	DSM5.53.2	11-8	3	83
4	5	DSM45	9-11	3	77
5	4	DSM54	11-9	3	81
6	7	DSM67	12-14	3	85
7	6	DSM76	14-12	3	89
8	9	DSM89	15-17	3	93
9	8	DSM98	17-15	3	97
10	11	DSM1011	20-22	4	101
11	10	DSM1110	22-20	4	105

DSM810K Metric Set. DSM3.25.5 thru DSM1110 (10 pcs) (3.2 to 11mm) in C1003 Kit Bag.



WARNING

- Do not use chrome or industrial finish hand tools with power drivers.
- Read additional safety precautions on pages M1 to M4.

Wrenches Open End

FLANK DRIVE® PLUS 4-Way Angle-Head Open End
Wrenches are specially designed to draw the fastener into the wrench to give you up to 62% more turning power and strength than any other open end wrench.

SVS807



VS807B



SVSM807



VSM807B



Four-Way Angle Head

mm			B	D	E
1/4	—	VS8B	17/32	3/16	3 11/16
5/16	—	VS10B	21/32	3/16	4 1/4
11/32	—	VS11B	23/32	7/32	4 17/32
3/8	SVS12*	VS12B	25/32	7/32	4 27/32
7/16	SVS14*	VS14B	7/8	7/32	5 13/32
1/2	SVS16*	VS16B	1	1/4	5 31/32
9/16	SVS18*	VS18B	1 1/8	1/4	6 9/16
5/8	SVS20*	VS20B	1 1/4	9/32	7 1/8
11/16	SVS22*	VS22B	1 3/8	9/32	7 25/32
3/4	SVS24*	VS24B	1 15/32	9/32	8 9/32
13/16	SVS26*	VS26B	1 19/32	5/16	8 27/32
7/8	SVS28*	VS28B	1 23/32	5/16	9 13/32
15/16	SVS30*	VS30B	1 27/32	11/32	10
1	—	VS32B	1 31/32	11/32	10 9/16
1 1/16	—	VS34B	2 3/32	11/32	11 1/8
1 1/8	—	VS36B	2 3/16	3/8	11 29/32
1 3/16	—	VS38B	2 11/32	3/8	12 9/32
1 1/4	—	VS40B	2 7/16	13/32	12 7/8
1 5/16	—	VS42B	2 9/16	13/32	13 7/16
1 3/8	—	VS44B	2 11/16	13/32	14
1 7/16	—	VS46B	2 27/32	7/16	14 19/32
1 1/2	—	VS48B	2 15/16	7/16	15 5/32
1 5/8	—	VS52B	3 7/32	19/32	16 5/16
1 11/16	—	VS54B	3 11/32	1/2	16 7/8
1 3/4	—	VS56B	3 13/32	1/2	17 7/16
1 13/16	—	VS58B	2 19/32	1/2	18
1 7/8	—	VS60B	2 23/32	17/32	18 19/32
2	—	VS64B	2 31/32	9/16	3/4

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* FLANK DRIVE® Plus Wrenches

VS828A Set. VS8B thru VS64B (28 pcs) (1/4" to 2").

VS814A Set. VS12B thru VS40B (except VS38B) (14 pcs) (3/8" to 1 1/4").

VS807B Set. VS12B thru VS24B (7 pcs) (3/8" to 3/4") in a plastic tray.

SVS807 FLANK DRIVE® Plus Set. SVS12 thru SVS24 (7 pcs) (3/8" to 3/4") in a plastic tray.

Four-Way Angle Head

mm			B	D	E
10	SVSM10*	VSM5210B	20	6	127
11	SVSM11*	VSM5211B	22	6	136
12	SVSM12*	VSM5212B	24	6	146
13	SVSM13*	VSM5213B	26	6	155
14	SVSM14*	VSM5214B	28	6	164
15	SVSM15*	VSM5215B	30	7	173
16	SVSM16*	VSM5216B	31	7	181
17	SVSM17*	VSM5217B	34	7	192
18	SVSM18*	VSM5218B	36	7	200
19	SVSM19*	VSM5219B	37	7	210
21	—	VSM5221B	41	8	228
22	—	VSM5222B	44	8	239
24	—	VSM5224B	47	8	254
27	—	VSM5227B	53	9	283

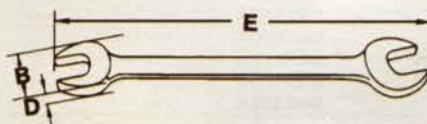
ASME/ANSI B107.9M-1994

* FLANK DRIVE® Plus Wrenches

VSM814 Metric Set. VSM5210B thru VSM5227B (14 pcs) (10 to 27mm).

VSM807B Metric Set. VSM5210B thru VSM5215B plus VSM5217B (7 pcs) (10 to 15mm plus 17mm) in a plastic tray.

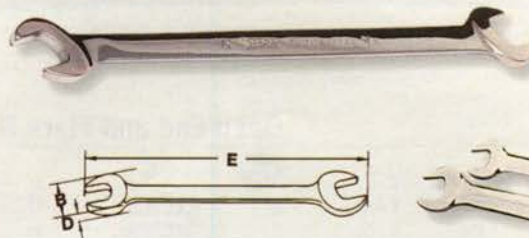
SVSM807 Flank Drive® Plus Metric Set. SVSM10 thru SVSM17 (7 pcs) (10 to 17mm) in a plastic tray.



The ends on the Angle-Head Wrenches have been offset at 30° and 60° angles to the handle. Both ends are the same size to permit the use of one wrench in four different positions to gain additional turning angles.

Open End

Wrenches



Low-Torque Slimline, 15° Offsets

11			B	D	E
3/8-7/16	LTA1214	2 5/32-2 9/32	3/32	9 1/2	
7/16-1/2	LTA1416	2 9/32-1 1/32	5/32	9 1/2	
1/2-9/16	LTA1618	1 1/32-1 5/32	5/32	9 1/2	
5/8-11/16	LTA2022	1 9/32-1 13/32	5/32	9 1/2	
3/4-13/16	LTA2426	1 17/32-1 11/16	5/32	9 1/2	
3/4-7/8	LTA2428	1 17/32-1 25/32	5/32	9 1/2	
15/16-1	LTA3032	1 29/32-2 1/32	5/32	9 1/2	
1 1/16-1 1/8	LTA3436	2 5/32-2 9/32	7/32	12 1/4	
1 1/4-1 5/16	LTA4042	2 17/32-2 21/32	1/4	12 1/4	
1 3/8-1 7/16	LTA4446	2 25/32-2 29/32	1/4	12 1/4	
1 1/2-1 5/8	LTA4852	3 1/16-3 9/32	9/32	14 1/4	
1 11/16-1 7/8	LTA5460	3 13/32-3 17/32	9/32	14 1/4	

LTA812 Set. LTA1214 thru LTA5460 (12 pcs) (3/8" to 1 7/8").

LTA805K Set. LTA1416 thru LTA3032 (except LTA2426) (5 pcs) (7/16" to 1") in C57 Kit Bag.

Low-Torque Slimline, 15° Offsets

mm			B	D	E
6-7	LTAM67	13-15	3	165	
8-10	LTAM810	17-21	3	165	
10-11	LTAM1011	21-23	3	165	
12-14	LTAM1214	25-29	4	241	
13-15	LTAM1315	27-31	4	241	
16-18	LTAM1618	33-37	4	241	
17-19	LTAM1719	35-39	4	241	
19-22	LTAM1922	39-45	4	241	
21-24	LTAM2124	43-49	4	241	
27-30	LTAM2730	55-61	6	311	
32-36	LTAM3236	65-73	6	311	

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LTAM811 Metric Set. LTAM67 thru LTAM3236 (11 pcs) (6 to 36mm).

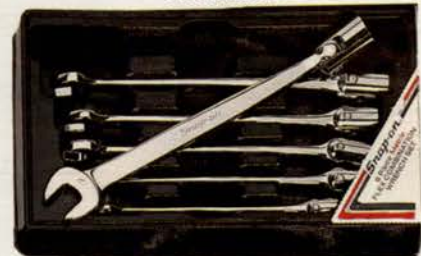
FLANK DRIVE® Flex-Head



FHO607B



FHOM606B

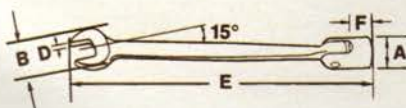


Flex-Combination

11	12	A	B	D	E	F
1/4	FHO8B	3/8	17/32	1/8	4 15/16	7/32
5/16	FHO10B	15/32	21/32	3/16	5 31/32	1/4
3/8	FHO12B	9/16	17/32	7/32	6 1/2	1/4
7/16	FHO14B	5/8	29/32	7/32	6 5/8	9/32
1/2	FHO16B	23/32	1 1/16	1/4	7 13/16	11/32
9/16	FHO18B	25/32	1 3/16	9/32	8 3/8	11/32
5/8	FHO20B	29/32	1 5/16	9/32	9	3/8
11/16	FHO22B	1	1 7/16	9/32	9 11/16	13/32
3/4	FHO24B	1 1/32	1 1/2	5/16	10 1/4	15/32
13/16	FHO26B	1 1/32	1 23/32	5/16	10 5/16	1/2
7/8	FHO28B	1 3/16	1 27/32	5/16	11 15/32	9/16

FHO611B 12-Point Set. FHO8B thru FHO28B (11 pcs) (1/4" to 7/8").

FHO607B 12-Point Set. FHO12B thru FHO24B (7 pcs) (3/8" to 3/4") in a plastic tray.

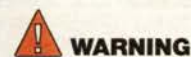


Flex-Combination

mm	12	A	B	D	E	F
8	FHOM8B	12	17	5	146	6
9	FHOM9B	13	18	5	156	6
10	FHOM10B	14	20	5	166	6
11	FHOM11B	16	23	6	181	7
12	FHOM12B	17	30	6	198	9
13	FHOM13B	19	27	7	205	9
14	FHOM14B	20	30	7	213	9
15	FHOM15B	21	31	7	224	10
16	FHOM16B	23	33	7	229	10
17	FHOM17B	24	37	8	246	10
18	FHOM18B	24	38	8	254	11
19	FHOM19B	26	40	8	261	12

FHOM612B Metric 12-Point Set. FHOM8B thru FHOM19B (12 pcs) (8 to 19mm).

FHOM606B Metric 12-Point Set. FHOM10B, FHOM12B, FHOM13B, FHOM14B, FHOM15B, and FHOM17B (6 pcs) (10 to 17mm) in a plastic tray.



WARNING


- Use only moderate force on slimline wrenches.
- Read additional safety precautions on pages M1 to M4.



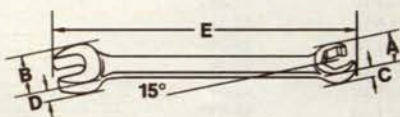
Wrenches **FLANK DRIVE®** Flare Nut




Open End and Flare Nut

	6	A	B	C	D	E
5/16	RXS10B	21/32	21/32	9/32	9/32	5 5/16
3/8	RXS12B	3/4	25/32	5/16	5/16	5 27/32
7/16	RXS14B	27/32	29/32	11/32	11/32	6 3/8
1/2	RXS16B	29/32	1 1/16	3/8	3/8	6 7/8
9/16	RXS18B	1	1 5/32	13/32	13/32	7 13/32
5/8	RXS20B	1 3/32	1 5/16	7/16	7/16	7 5/16
11/16	RXS22B	1 5/32	1 13/32	15/32	15/32	8 15/32
3/4	RXS24B	1 1/4	1 9/16	1/2	1/2	9

RXS605B 6-Point Set. RXS12B thru RXS20B (5 pcs) (3/8" to 5/8") in a plastic tray.



Open End and Flare Nut

	6	A	B	C	D	E
8	RXSM8B	17	17	7	7	135
9	RXSM9B	18	19	7	7	144
10	RXSM10B	20	21	8	8	152
11	RXSM11B	21	23	9	9	162
12	RXSM12B	22	25	9	9	169
13	RXSM13B	24	27	9	9	178
14	RXSM14B	25	29	10	10	186
15	RXSM15B	26	31	10	10	194
16	RXSM16B	27	33	11	11	202
17	RXSM17B	29	35	11	11	211
18	RXSM18B	30	37	12	12	219
19	RXSM19B	32	39	12	12	228
20	RXSM20B	33	41	14	14	235


RXSM613 Metric 6-Point Set. RXSM8B thru RXSM20B (13 pcs) (8 to 20mm).

RXSM610K Metric 6-Point Set. RXSM9B thru RXSM18B (10 pcs) (9 to 18mm) in C1001 Kit Bag.

RXSM605B Metric 6-Point Set. RXSM10B thru RXSM14B (5 pcs) (10 to 14mm) in a plastic tray.




Double End

	6	A	C	E
1/4-5/16	RXFS810B	19/32-21/32	1/4-9/32	4 27/32
3/8-7/16	RXFS1214B	3/4-27/32	5/16-11/32	5 13/16
1/2-9/16	RXFS1618B	29/32-1	3/8-13/32	6 13/16
5/8-11/16	RXFS2022B	1 3/32-1 5/32	7/16-15/32	7 3/4
3/4-13/16	RXFS2426B	1 1/4-1 5/16	1/2-17/32	8 25/32
3/4-1	RXFS2432B	1 1/4-1 9/16	1/2-5/8	9 1/2
7/8-1 1/8	RXFS2836B	1 13/32-1 3/4	9/16-11/16	10 1/2


RXFS605B 6-Point Set. RXFS810B, thru RXFS2426B (5 pcs) (1/4" to 13/16") in a plastic tray.

Double End

	6	A	C	E
9-11	RXFMS911B	18-21	7-8	145
10-12	RXFMS1012B	20-22	8-9	153
13-14	RXFMS1314B	24-25	9-10	173
15-17	RXFMS1517B	26-29	10-11	193
16-18	RXFMS1618B	28-30	11-12	200
19-21	RXFMS1921B	32-34	12-13	223

RXFMS606B Metric 6-Point Set. RXFMS911B thru RXFMS1921B (6 pcs) (9 to 21mm) in a plastic tray.

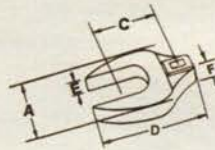
Single End

	12	A	C	E
9/16	RX18A	1	13/32	7 1/8
5/8	RX20A	1 3/32	7/16	7 1/4
11/16	RX22A	1 5/32	15/32	7 13/32
3/4	RX24A	1 1/4	1/2	7 17/32
13/16	RX26A	1 11/32	17/32	7 11/16
7/8	RX28A	1 13/32	9/16	7 27/32
15/16	RX30A	1 1/2	19/32	7 31/32
1	RX32A	1 19/32	21/32	8 1/8
1 1/16	RX34A	1 21/32	11/16	8 1/4
1 1/8	RX36A	1 3/4	23/32	8 13/32
1 3/16	RX38A	1 13/16	3/4	8 9/16
1 1/4	RX40A	1 29/32	25/32	13 13/32
1 5/16	RX42A	1 29/32	25/32	13 17/32
1 3/8	RX44A	2 5/32	29/32	13 17/32
1 1/2	RX48A	2 5/32	29/32	13 21/32
1 5/8	RX52A	2 5/16	31/32	13 23/32


RX616 12-Point Set. RX18A thru RX52A (16 pcs) (9/16" to 1 5/8").



1/4" Drive Crowfoot Wrenches




Open End

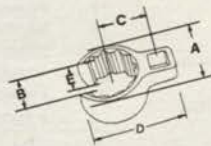
		A	C	E	F	D
1/4"	TMC08	17/32	17/32	1/4	1/4	31/32
5/16"	TMC010	21/32	9/16	1/4	1/4	1 1/32
3/8"	TMC012	25/32	19/32	1/4	1/4	1 3/32
7/16"	TMC014	7/8	5/8	5/16	5/16	1 5/32
1/2"	TMC016	1 1/32	21/32	5/16	5/16	1 1/4
9/16"	TMC018	1 1/8	11/16	5/16	5/16	1 9/32

106TMC0 Set. TMC08 thru TMC018 (6 pcs) (1/4" to 9/16") in a plastic tray.



Open End

		A	C	E	F	D
7	TMCOM7	13.5	13.2	6.6	6.6	24.4
8	TMCOM8	16.8	14.1	6.6	6.6	25.9
10	TMCOM10	19.8	14.6	6.6	6.6	27.5
11	TMCOM11	22.4	16.0	7.9	7.9	29.4
12	TMCOM12	24.4	16.5	7.9	7.9	30.6
13	TMCOM13	26.4	16.6	7.9	7.9	31.2
14	TMCOM14	29.0	17.7	7.9	7.9	32.9

107TMCOM Metric Set. TMCOM7 thru TMCOM14 (7 pcs) (7 to 14mm) in a plastic tray.





FLANK DRIVE® Flare Nut

		A	B	C	E	D
1/4"	TMRH8	1/2	5/32	17/32	1/4	31/32
5/16"	TMRH10	1/2	7/32	9/16	1/4	1 1/32
3/8"	TMRH12	19/32	1/4	19/32	1/4	1 3/32
7/16"	TMRH14	21/32	5/16	5/8	5/16	1 5/32
1/2"	TMRH16	3/4	11/32	21/32	5/16	1 7/32
9/16"	TMRH18	27/32	13/32	11/16	5/16	1 9/32

106TMRH 12-Point Set. TMRH8 thru TMRH18 (6 pcs) (1/4" to 9/16") in a plastic tray.



FLANK DRIVE® Flare Nut

		A	B	C	E	D
7	TMRHM7	14.2	4.3	14.6	6.8	27.4
8	TMRHM8	15.9	4.9	15.0	6.8	28.6
10	TMRHM10	20.6	6.2	15.2	6.8	30.5
11	TMRHM11	23.0	7.1	15.6	7.9	32.1
12	TMRHM12	24.6	7.8	16.0	7.9	33.1
13	TMRHM13	26.2	9.2	16.7	9.5	33.7
14	TMRHM14	28.6	10.0	17.2	9.5	35.3

107TMRHM 12-Point Set. TMRHM7 thru TMRHM14 (7 pcs) (7 to 14mm) in a plastic tray.





FLANK DRIVE® Flare Nut

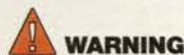
		A	B	C	E	Maximum Recommended Working Torque, in. lb.
1/4"	TMRX8	13/32	1/8	31/32	1/4	75
5/16"	TMRX10	1/2	3/16	31/32	1/4	75
3/8"	TMRX12	19/32	1/4	31/32	1/4	75

ASME/ANSI: B107.21-1992

FLANK DRIVE® Flare Nut

		A	B	C	E	Maximum Recommended Working Torque, in. lb.
3/8"	AN85086B	19/32	9/32	1/2	1/2	75
7/16"	AN85087B	11/16	11/32	9/16	9/16	200
1/2"	AN85088B	25/32	13/32	19/32	9/16	200
9/16"	AN85089B	27/32	15/32	5/8	9/16	200

ASME/ANSI: B107.21-1992



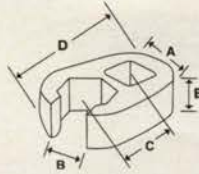
WARNING

- Do not use chrome or industrial finish hand tools with power drivers.
- Use only moderate force on crowfoot and flare nut wrenches.
- Read additional safety precautions on pages M1 to M4.



Wrenches 3/8" Drive Crowfoot



207SFRH



210FRHM





FLANK DRIVE® Flare Nut

		A	B	C	E	D	Maximum Recommended Working Torque, in. lb.
3/8	FRH120S	13/32	1/4	9/16	3/8	1 11/32	150
7/16	FRH140S	29/32	5/16	9/16	3/8	1 13/32	200
1/2	FRH160S	1	11/32	9/16	3/8	1 7/16	250
9/16	FRH180S	1 1/8	3/8	3/4	7/16	1 5/8	300
5/8	FRH200S	1 1/8	7/16	3/4	7/16	1 5/8	375
11/16	FRH220S	1 5/16	1/2	13/16	1/2	1 29/32	450
3/4	FRH240S	1 5/16	9/16	13/16	1/2	1 29/32	525
13/16	FRH260S	1 5/8	5/8	7/8	9/16	1 31/32	600
7/8	FRH280S	1 5/8	23/32	7/8	9/16	1 31/32	675
15/16	FRH300S	1 7/8	11/16	15/16	5/8	2 3/16	750
1	FRH320S	1 7/8	3/4	15/16	5/8	2 3/16	825

211SFRH Set. FRH120S thru FRH320S (11 pcs) (3/8" to 1").

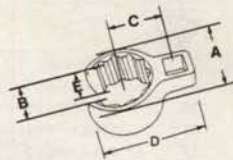
207SFRH Set. FRH120S thru FRH240S (7 pcs) (3/8" to 3/4") in a plastic tray.

FLANK DRIVE® Flare Nut

		A	B	C	E	D	Maximum Recommended Working Torque, in. lb.
9	FRHM9	22.4	6.7	14.2	9.7	33.3	150
10	FRHM10	22.9	7.4	14.2	9.7	35.3	200
11	FRHM11	22.9	8.3	14.2	9.7	35.3	200
12	FRHM12	25.4	9.0	14.2	9.7	36.6	250
13	FRHM13	25.4	9.4	14.2	9.7	36.6	250
14	FRHM14	28.4	10.5	18.8	11.2	40.9	375
15	FRHM15	28.4	11.2	18.8	11.2	40.9	375
16	FRHM16	28.4	11.7	18.8	11.2	40.9	375
17	FRHM17	33.3	12.6	20.6	12.7	44.7	525
18	FRHM18	33.3	13.6	20.6	12.7	44.7	525
19	FRHM19	33.3	14.7	20.6	12.7	44.7	525
20	FRHM20	41.1	15.2	22.1	14.2	50.3	600
21	FRHM21	41.1	16.3	22.1	14.2	50.3	650
22	FRHM22	41.1	17.0	22.1	14.2	50.3	650

214FRHM Set. FRHM9 thru FRHM22 (14 pcs) (9 to 22mm).



210FRHM Set. FRHM9 thru FRHM18 (10 pcs) (9 to 18mm) in a plastic tray.



216FCOM





Deep FLANK DRIVE® Flare Nut

		A	B	C	E	Maximum Recommended Working Torque, in. lb.
5/8	AN850810B	15/16	1/2	23/32	23/32	250
11/16	AN850811B	1 1/32	17/32	25/32	23/32	310
3/4	AN850812B	1 1/8	9/16	13/16	3/4	450
13/16	AN850813B	1 7/32	5/8	7/8	3/4	450
7/8	AN850814B	1 5/16	25/32	15/16	25/32	625
15/16	AN850815B	1 3/8	3/4	31/32	25/32	625
1	AN850816B	1 7/16	3/4	1	13/16	625
1 1/16	AN850817B	1 17/32	25/32	1 1/32	13/16	625

ASME/ANSI B107.21-1992

208AN Set. AN850810B thru AN850817B (8 pcs) (5/8" to 1 1/16").

Open End

		A	C	E	F	D	Maximum Recommended Working Torque, in. lb.
9	FCOM9A	22.4	18.8	5.3	13.2	33.3	75
10	FCOM10A	22.4	17.6	5.3	13.2	33.0	75
11	FCOM11A	22.4	16.6	5.3	13.2	32.3	75
12	FCOM12A	26.2	21.0	5.3	13.2	37.3	105
13	FCOM13A	26.2	19.8	5.3	13.2	36.8	105
14	FCOM14A	26.2	18.6	5.3	13.2	36.1	105
15	FCOM15A	31.8	22.7	5.3	13.2	40.9	125
16	FCOM16A	31.8	21.7	5.3	13.2	40.4	125
17	FCOM17A	31.8	20.5	5.3	13.2	39.9	125
18	FCOM18A	38.4	27.2	6.4	13.2	48.5	170
19	FCOM19A	38.4	26.2	6.4	13.2	48.0	170
20	FCOM20A	38.4	25.0	6.4	13.2	48.0	170
21	FCOM21A	43.7	27.4	7.1	15.0	48.8	250
22	FCOM22A	43.7	26.4	7.1	15.0	50.0	250
23	FCOM23A	50.5	30.1	8.9	16.8	54.4	390
24	FCOM24A	50.5	28.8	8.9	16.8	53.8	400

216FCOM Metric Set. FCOM9A thru FCOM24A (16 pcs) (9 to 24mm).

210FCOMA Metric Set. FCOM10A thru FCOM19A (10 pcs) (10 to 19mm) in a plastic tray.

3/8" Drive Crowfoot Wrenches



211GFCO



Open End



			A	C	E	F	D	Maximum Recommended Working Torque, in. lb.
3/8	FC012A	GFC012A	7/8	23/32	7/32	33/64	1 19/64	75
7/16	FC014A	GFC014A	7/8	41/64	7/32	33/64	1 17/64	75
1/2	FC016A	GFC016A	1 1/32	51/64	7/32	33/64	1 29/64	105
9/16	FC018A	GFC018A	1 1/4	59/64	7/32	33/64	1 5/8	105
5/8	FC020A	GFC020A	1 1/4	55/64	7/32	33/64	1 19/32	125
11/16	FC022A	GFC022A	1 9/16	1 3/32	7/32	33/64	1 59/64	150
3/4	FC024A	GFC024A	1 9/16	1 1/32	7/32	33/64	1 57/64	190
13/16	FC026A	GFC026A	1 23/32	1 3/32	9/32	19/32	2	245
7/8	FC028A	GFC028A	1 23/32	1 1/32	9/32	19/32	1 31/32	300
15/16	FC030A	GFC030A	2	1 5/32	11/32	21/32	2 1/8	360
1	FC032A	GFC032A	2	1 5/64	11/32	21/32	2 3/32	420

Chrome Set:

211FCOA Set. FC012A thru FC032A (11 pcs) (3/8" to 1") in a plastic tray.

Industrial Finish Set:

211GFCO Set. GFC012A thru GFC032A (11 pcs) (3/8" to 1").

Open End with Side Lock Hole



		A	C	E	F	Maximum Recommended Working Torque, in. lb.
7/16	FC14B	7/8	41/64	7/32	33/64	75
1/2	FC16B	1 1/32	51/64	7/32	33/64	105
9/16	FC18B	1 1/4	59/64	7/32	33/64	105
5/8	FC20B	1 1/4	55/64	7/32	33/64	125
11/16	FC22B	1 3/16	1 3/32	7/32	33/64	150
3/4	FC24B	1 9/16	1 1/32	7/32	33/64	190
13/16	FC26B	1 23/32	1 3/32	9/32	19/32	245
7/8	FC28B	1 23/32	1 1/32	9/32	19/32	300
15/16	FC30B	2	1 5/32	11/32	21/32	360
1	FC32B	2	1 5/64	11/32	21/32	420
1 1/16	FC34A	1 23/32	1 3/64	3/8	39/64	465
1 1/8	FC36A	1 29/32	1 5/32	3/8	39/64	510
1 3/16	FC38A	1 29/32	1 13/64	3/8	39/64	510
1 1/4	FC40A	2 5/32	1 15/64	3/8	41/64	555
1 5/16	FC42A	2 5/32	1 17/64	3/8	41/64	600
1 3/8	FC44A	2 3/8	1 19/64	3/8	41/64	680
1 7/16	FC46A	2 3/8	1 11/32	3/8	41/64	760
1 1/2	FC48A	2 17/32	1 3/8	3/8	41/64	795
1 9/16	FC50A	2 17/32	1 13/32	3/8	41/64	795
1 5/8	FC52A	2 21/32	1 29/64	3/8	41/64	820
1 11/16	FC54A	2 21/32	1 31/64	3/8	41/64	860
1 3/4	FC56A	2 7/8	1 33/64	3/8	41/64	910
1 13/16	FC58A	2 7/8	1 35/64	3/8	41/64	960
1 7/8	FC60A	3 5/32	1 19/32	3/8	41/64	1040
1 15/16	FC62A	3 5/32	1 5/8	3/8	41/64	1040
2	FC64A	3 13/32	1 23/32	1/2	45/64	1115
2 1/16	FC66A	3 13/32	1 3/4	1/2	45/64	1190
2 1/8	FC68A	3 19/32	1 25/32	1/2	45/64	1190
2 3/16	FC70A	3 19/32	1 53/64	1/2	45/64	1275
2 1/4	FC72A	3 27/32	1 15/16	1/2	45/64	1370
2 5/16	FC74A	3 27/32	1 15/16	1/2	45/64	1370
2 3/8	FC76A	4 3/32	2 1/16	1/2	45/64	1450
2 7/16	FC78A	4 3/32	2 1/8	1/2	45/64	1555
2 1/2	FC80A	4 9/32	2 11/64	1/2	45/64	1555
2 9/16	FC82A	4 9/32	2 11/64	1/2	45/64	1660
2 5/8	FC84A	4 17/32	2 21/64	1/2	45/64	1760
2 11/16	FC86A	4 17/32	2 3/8	1/2	45/64	1760
2 3/4	FC88A	4 23/32	2 7/16	1/2	45/64	1900
2 13/16	FC90A	4 23/32	2 17/32	1/2	45/64	2075
2 7/8	FC92A	5 3/32	2 41/64	1/2	45/64	2075
2 15/16	FC94A	5 3/32	2 43/64	1/2	45/64	2200
3	FC96A	5 3/32	2 23/32	1/2	45/64	2200

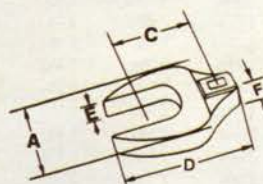
ASME/ANSI B107.21, Type 2, Class 2, Style A

Chrome Sets:

242FC Set. FC14B thru FC96A (42 pcs) (7/16" to 3").

226FC Set. FC14B thru FC64A (26 pcs) (7/16" to 2").

214FC Set. FC14B thru FC40A (14 pcs) (7/16" to 1 1/4").



214FC



A277 Crowfoot Wrench Holder For 3/8" drive crowfoot wrenches.

Conveniently organize and store your crowfoot wrenches on this holder. Two-piece design snaps apart for access to desired size. 8 3/4" long. U.S. Patent No. 4,497,405.




WARNING

- Do not use chrome or industrial finish hand tools with power drivers.
- Use only moderate force on crowfoot and flare nut wrenches.
- Read additional safety precautions on pages M1 to M4.



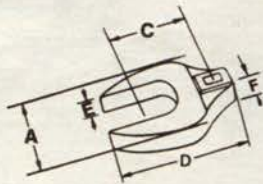
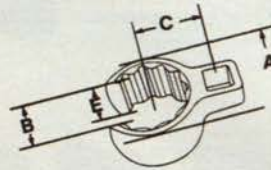
Wrenches 1/2" Drive Crowfoot

Deep FLANK DRIVE® Flare Nut



	12	A	B	C	E	Maximum Recommended Working Torque, in. lb.
1 1/8	AN850818B	1 5/8	27/32	1 9/32	7/8	825
1 3/16	AN850819B	1 11/16	29/32	1 3/16	7/8	825
1 1/4	AN850820B	1 25/32	19/16	1 7/32	7/8	825
1 5/16	AN850821B	1 27/32	31/32	1 1/4	7/8	900
1 3/8	AN850822B	1 15/16	1 1/16	1 9/16	15/16	900
1 7/16	AN850823B	2	1 1/16	1 11/32	15/16	900
1 1/2	AN850824B	2 3/32	1 1/8	1 3/8	15/16	900
1 9/16	AN850825B	2 5/32	1 5/32	1 13/32	15/16	900
1 5/8	AN850826B	2 7/32	1 7/32	1 7/16	15/16	1100
1 11/16	AN850827B	2 9/16	1 5/16	1 1/2	1 1/32	1100
1 3/4	AN850828B	2 3/8	1 5/16	1 9/16	1 1/32	1150
1 13/16	AN850829B	2 15/32	1 11/32	1 19/32	1 1/32	1200
1 7/8	AN850830B	2 9/16	1 3/8	1 21/32	1 1/16	1200
1 15/16	AN850831B	2 5/8	1 7/16	1 11/16	1 1/16	1200
2	AN850832B	2 23/32	1 9/16	1 23/32	1 1/16	1400
2 1/8	AN850834B	2 7/8	1 9/16	1 13/16	1 1/8	1450
2 3/16	AN850835B	2 15/16	1 21/32	1 27/32	1 1/8	1500
2 1/4	AN850836B	3 1/32	1 11/16	1 7/8	1 1/8	1500
2 3/8	AN850838B	3 3/16	1 13/16	1 31/32	1 3/16	1600
2 7/16	AN850839B	3 1/4	1 13/16	2	1 3/16	1650
2 9/16	AN850841B	3 7/16	1 29/32	2 3/32	1 9/32	1750
2 5/8	AN850842B	3 1/2	2 1/16	2 1/8	1 9/32	1800
2 11/16	AN850843B	3 19/32	2 1/16	2 9/32	1 9/32	1800
2 3/4	AN850844B	3 21/32	2 1/16	2 7/32	1 9/32	1850
3 1/8	AN850850B	4 1/8	2 5/16	2 7/16	1 5/16	2000

ASME/ANSI B107.21-1992

315AN 12-Point Set. AN850818B thru AN850832B (15 pcs) (1 1/8" to 2").



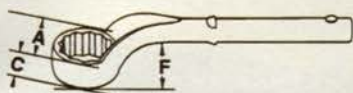
Open End

		A	C	E	F	Maximum Recommended Working Torque, in. lb.
1 1/16	SC034	2 3/32	1 3/4	3/8	5/8	2000
1 1/8	SC036	2 7/32	1 3/4	3/8	5/8	2100
1 3/16	SC038	2 11/32	3 1/8	13/32	5/8	2200
1 1/4	SC040	2 15/32	2	13/32	5/8	2300
1 5/16	SC042	2 19/32	2	7/16	5/8	2400
1 3/8	SC044	2 23/32	2	7/16	5/8	2500
1 7/16	SC046	2 27/32	2	7/16	5/8	2600
1 1/2	SC048	3 1/32	3 7/32	15/32	5/8	2900
1 5/8	SC052	3 7/32	1 31/32	1/2	5/8	3400
1 11/16	SC054	3 11/32	2 3/16	1/2	5/8	3700
1 3/4	SC056	3 15/32	2 3/16	17/32	5/8	3900
1 13/16	SC058	3 19/32	2 3/16	17/32	5/8	4100
1 7/8	SC060	3 23/32	2 3/16	9/16	5/8	4300
2	SC064	3 31/32	2 7/32	9/16	5/8	5000

314SCO Set. SC034 thru SC064 (14 pcs) (1 1/16" to 2").



Heavy Duty Wrenches



Wrenches may be used without the handle to quickly run down nuts. The handle can then be slipped on for final tightening or to reach otherwise inaccessible nuts. A "stop" on the wrench shaft helps to align locking button with handle hole.

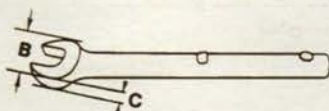


FLANK DRIVE® Offset Box

11	mm	12	A	C	F	Assembled Length from Bolt Center, in.	Fits Handle No.
1 1/16	—	X340B	1 21/32	5/8	30 3/32	15 1/16	24B
1 1/8	—	X360B	1 7/8	23/32	30 7/32	1 1/16	24B
1 1/4	32	X400C	1 29/32	23/32	30 7/32	1 1/16	24B
1 5/16	33	X420B	2	27/32	32 1/2	1 1/8	24B
1 3/8	35	X440B	2 1/16	7/8	32 19/32	1 1/16	24B
1 7/16	36	X460B	2 5/32	7/8	32 19/32	1 1/4	24B
1 1/2	38	X480B	2 1/4	15/16	32 19/32	1 9/16	24B
1 9/16	40	X500B	2 5/16	15/16	32 19/32	1 9/16	24B
1 5/8	41	X520B	2 13/32	31/32	32 23/32	1 3/8	24B
1 11/16	43	X540B	2 19/32	1 1/16	43 9/32	1 7/16	36B
1 3/4	44	X560B	2 5/8	1 1/16	43 9/32	1 1/2	36B
1 13/16	46	X580B	2 23/32	1 1/8	43 13/32	1 9/16	36B
1 7/8	47	X600B	2 3/4	1 1/8	43 13/32	1 9/8	36B
2	51	X640B	2 31/32	1 1/4	43 1/2	1 3/4	36B
2 1/16	52	X660B	2 31/32	1 1/4	43 1/2	1 3/4	36B
2 3/16	55	X700B	3 3/16	1 5/16	43 19/32	1 7/8	36B
2 1/4	57	X720B	3 1/4	1 9/16	43 19/32	1 7/8	36B
2 3/8	60	X760B	3 13/32	1 13/32	43 11/16	2	36B
2 9/16	65	X820B	3 21/32	1 1/2	43 13/16	2 1/4	36B
2 5/8	67	X840B	3 11/16	1 1/2	44 7/32	2 1/4	36B
2 3/4	70	X880B	3 15/16	1 19/32	44	2 1/2	36B
2 15/16	75	X940B	4 5/32	1 11/16	44 3/32	2 5/8	36B
2 7/8	79	X1000B	4 3/8	1 11/16	44 7/32	2 3/4	36B

X625 Set. X340B thru X1000B plus 24B and 36B Tubular Handles (25 pcs)
(1 1/16" to 3 1/8").

X610 Set. X340B thru X520B plus 24B Tubular Handle (10 pcs)
(1 1/16" to 1 5/8").



Open End

A continuous arc design distributes stress over the entire wrench opening radius for greater strength.

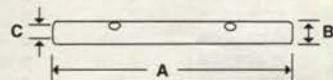
11	mm		B	C	Length with Handle, inches	Fits Handle No.
7/8	—	OE128C	1 15/16	1/2	29 7/8	24B
15/16	—	OE130C	1 15/16	1/2	29 7/8	24B
1	—	OE132C	2 5/16	9/16	30 21/32	24B
1 1/16	—	OE134C	2 5/16	9/16	30 21/32	24B
1 1/8	—	OE136C	2 5/16	9/16	30 21/32	24B
1 1/4	32	OE140C	2 11/16	5/8	31 21/32	24B
1 5/16	33	OE142C	2 11/16	5/8	31 21/32	24B
1 3/8	36	OE146C	3 1/8	11/16	32 9/16	24B
1 1/2	38	OE148C	3 1/8	11/16	33 9/16	24B

For use with Torque Wrenches TQR600E and TQR400E on page 267.

FLANK DRIVE® Straight Box

11	mm	12	A	C	Assembled Length from Bolt Center, in.	Fits Handle No.
3/4	—	XH124C	1 1/4	17/32	29 17/32	24B
13/16	—	XH126C	1 1/4	17/32	29 17/32	24B
7/8	—	XH128C	1 13/32	19/32	29 17/32	24B
15/16	—	XH130C	1 13/32	19/32	29 17/32	24B
1	—	XH132C	1 9/16	21/32	29 19/32	24B
1 1/16	—	XH134C	1 9/16	21/32	29 19/32	24B
1 1/8	—	XH136C	1 5/16	11/16	29 17/32	24B
1 1/4	32	XH140C	1 29/32	27/32	31 29/32	24B
1 5/16	33	XH142C	1 29/32	27/32	31 29/32	24B
1 7/16	36	XH146C	2 5/32	7/8	31 29/32	24B
1 1/2	38	XH148C	2 5/32	7/8	31 29/32	24B
1 5/8	41	XH152C	2 5/16	15/16	32 23/32	24B
3 1/8	79	XH100C	4 9/32	1 3/4	42 5/32	36B

XH613 12-Point Set. XH124C thru XH152C plus 24B Tubular Handle (13 pcs)
(3/4" to 1 5/8").



Tubular Handles

Use with the box and open end wrenches on this page.

	A	B	C
13B	13 1/2	1 5/16	7/8
24B	24	1 1/8	7/8
36B	36	1 7/16	1 1/8

Use the following handles with the box and open end wrenches. Handles fit X, XH, and OE Series Wrenches and earlier series wrenches suffixed with the letter "A."

	A	B	For Wrench Size, inches
15B	15	13/16-5/8	3/4-1
18B	18	7/8-11/16	1 1/16-1 1/4
30B	30	1 5/16-1	1 11/16-2 1/4

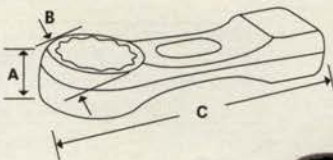


WARNING

- Do not use chrome or industrial finish hand tools with power drivers.
- Use only moderate force on crowfoot and flare nut wrenches.
- Read additional safety precautions on pages M1 to M4.



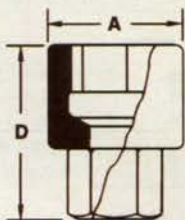
Wrenches Heavy Duty Striking



FLANK DRIVE® Straight Handle Sledge Hammer

11	mm	12	A	B	C
1 1/4	32	DX140A	7/8	2 3/32	7 17/32
1 5/16	33	DX142A	7/8	2 3/32	7 17/32
1 3/8	35	DX144A	31/32	2 1/4	7 9/8
1 7/16	36	DX146A	31/32	2 1/4	7 9/8
1 1/2	38	DX148A	31/32	2 1/4	7 9/8
1 5/8	41	DX152A	1 1/8	2 5/8	7 13/16
1 11/16	43	DX154A	1 1/8	2 5/8	7 13/16
1 3/4	44	DX156A	1 7/32	2 13/16	7 29/32
1 13/16	46	DX158A	1 7/32	2 13/16	7 29/32
1 7/8	47	DX160A	1 7/32	2 13/16	7 29/32
2	51	DX164A	1 1/8	3 9/32	11 19/32
2 1/16	52	DX166A	1 1/8	3 9/32	11 19/32
2 3/16	55	DX170A	1 17/32	3 7/16	11 23/32
2 1/4	57	DX172A	1 17/32	3 7/16	11 23/32
2 3/8	60	DX176A	1 21/32	3 23/32	11 27/32
2 7/16	62	DX178A	1 21/32	3 23/32	11 27/32
2 1/2	63	DX180A	1 21/32	3 23/32	11 27/32
2 9/16	65	DX182A	1 25/32	4	13
2 5/8	67	DX184A	1 25/32	4	13
2 3/4	70	DX188A	1 29/32	4 1/4	14 1/4
2 13/16	71	DX190A	1 29/32	4 1/4	14 1/4
2 15/16	75	DX194A	2 1/32	4 17/32	14 13/32
3	76	DX196A	2 1/32	4 17/32	14 13/32
3 1/8	79	DX1100A	2 1/4	4 29/32	17 9/16
3 3/8	85	DX1108A	2 1/4	4 29/32	17 9/16
3 1/2	89	DX1112A	2 7/16	5 9/32	17 25/32
3 3/4	95	DX1120A	2 21/32	5 17/32	17 7/8
3 7/8	98	DX1124A	2 21/32	5 17/32	17 7/8
4 1/8	105	DX1132A	2 29/32	6 1/32	18 1/8
4 1/4	108	DX1136A	2 29/32	6 1/32	18 1/8
4 1/2	114	DX1144A	3 5/32	6 25/32	20
4 5/8	117	DX1148A	3 5/32	6 25/32	20

DX632 12-Point Set. DX140A thru DX1148A (32 pcs) (1 1/4" to 4 5/8").



Insert Sockets

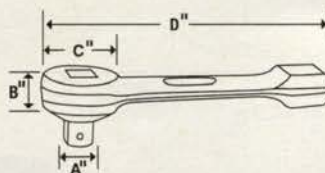
For use with DX Series Wrenches. Sockets insert into wrench, raising it above the surface and preventing hammer damage to floor or equipment.

11	mm	6	A	D
2 1/4	57	H720	3 3/8	4
2 3/4	70	H880	4 1/8	4 3/4
3 1/2	89	H1120	5 1/8	5 1/4
3 3/4	95	H1200	5 9/16	6 3/16

FLANK DRIVE® Offset Handle Sledge Hammer

11	mm	12	A	B	C
1 1/16	—	HX340A	5/8	1 11/16	10 3/4
1 1/8	—	HX360A	11/16	1 3/4	11
1 1/4	32	HX400B	3/4	1 15/16	11 23/32
1 5/16	33	HX420A	13/16	2	11 3/4
1 3/8	35	HX440A	7/8	2 3/32	11 3/4
1 7/16	36	HX460A	7/8	2 3/16	11 3/4
1 1/2	38	HX480A	15/16	2 1/4	12 1/4
1 5/8	41	HX520A	1	2 7/16	12 3/4
1 11/16	43	HX540A	1 1/16	2 1/2	13
1 3/4	44	HX560A	1 1/16	2 3/4	13
1 13/16	46	HX580A	1 1/8	2 11/16	13 1/2
1 7/8	47	HX600A	1 1/8	2 1/4	13 1/2
2	51	HX640A	1 1/4	2 15/16	14
2 3/16	55	HX700A	1 5/16	3 3/16	14 1/2
2 1/4	57	HX720A	1 5/16	3 1/4	14 1/2
2 3/8	60	HX760A	1 3/8	3 7/16	15
2 9/16	65	HX820A	1 1/2	3 11/16	15 1/2
2 5/8	67	HX840A	1 1/2	3 3/4	15 1/2
2 3/4	70	HX880A	1 5/8	4	16
2 15/16	75	HX940A	1 11/16	3 3/16	17
3 1/8	79	HX1000A	1 3/4	4 7/16	17 5/16

HX621 12-Point Set. HX340A thru HX1000A (21 pcs) (1 1/16" to 3 1/8").



Slugging Wrench

A	B	C	D
1	1 1/2	3	11 1/2

T-Shape



Hex

mm	Standard Handle 9" Length	Blue Handle 6" Length
3/32	GAW1906	AWCG1606B
7/64	GAW1907	AWCG1607B
1/8	GAW1908	AWCG1608B
9/64	GAW1909	AWCG1609B
5/32	GAW1910	AWCG1610B
3/16	GAW1912	AWCG1612B
7/32	GAW1914	AWCG1614B
1/4	GAW1916	AWCG1616B
5/16	GAW1920	—
3/8	GAW1924	—

GAW1900A Set. GAW1906 thru GAW1916 (8 pcs) (3/32" to 1/4") in a plastic pouch.

AWCG1600B Set. AWCG1606B thru AWCG1616B (8 pcs) (3/32" to 1/4") in a plastic pouch.

Hex

mm	Red Handle 152.4 mm Length
2	AWMCG1602B
2.5	AWMCG16025B
3	AWMCG1603B
4	AWMCG1604B
5	AWMCG1605B
6	AWMCG1606B
8	AWMCG1608B
10	AWMCG1610B

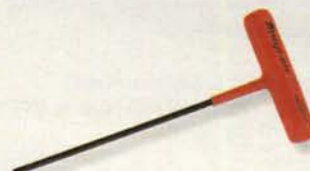
AWMCG1600B Metric Set. AWMCG1602B thru AWMCG1610 (8 pcs) (2 to 10mm) in a plastic pouch.

TORX®

#	Orange Handle 6" Length
T7	AWCGT7
T8	AWCGT8
T10	AWCGT10
T15	AWCGT15
T20	AWCGT20
T25	AWCGT25
T30	AWCGT30
T40	AWCGT40
T45	AWCGT45

AWCGT500 TORX® Set. AWCGT8 thru AWCGT25 (5 pcs) (T8 to T25).

Wrenches

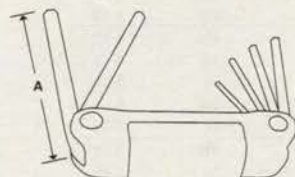


Folding Sets



Hex

AWEF6K	AWEF9K
mm	mm
3/32	2.7
3/16	3.3
7/32	3.5
1/4	3.7
5/16	4.8
	.050
	1.8
	1.9
	2.0
	2.1
	2.3
	2.4
	2.6
	2.7
	2.9



Hex

AWMEF7K	AWMEF8K	AWMEF6K
mm	mm	mm
1.5	45.7	3
2	50.8	4
2.5	55.9	5
3	61.0	6
4	66.0	8
5	78.7	10
6	83.8	
	7	
	8	
	106.7	
	121.9	

AWCPEF16K Set. Set includes AWEF9K Hex Set and AWMEF7K Metric Hex Set.

TORX®

AWTEF8K
#
T8
T10
T15
T20
T25
T27
T30
T40



Ball Hex

AWEFB9K
mm
3/64
3/32
7/64
1/8
9/64
5/32
3/16
7/32
1/4



Combination Set:

AWHD8K Hex / TORX® Set. Includes two TORX® sizes (T27, T40) and six hex sizes (5/32", 3/16", 7/32", 1/4", 5/16" and 3/8"). Fits a wide range of Harley Davidson® motorcycles.

See Warranty Information on inside front cover.

WARNING
• Read additional safety precautions on pages M1 to M4.



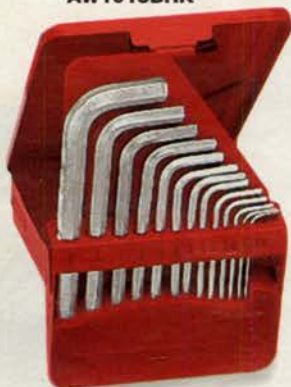
Wrenches L-Shaped

AW1020K



AW1020K U.S. Set (Zinc Plated).
AW028 thru AW24 (20 pcs) (.028" to 3/4")
in C84C Kit Bag.

AW1015BHK



AW1015BHK U.S. Set (Zinc Plated).
AW028 thru AW12 (15 pcs.) (.028" to 3/8")
in BHK15 Metal Index.

AW1013K



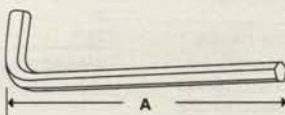
AW1013K U.S. Set (Zinc Plated).
AW050 thru AW12 (13 pcs.) (.050" to 3/8")
in C112B Kit Bag.

AW1013AK U.S. Set (Zinc Plated).
AW028 thru AW8 (13 pcs) (.028" to 1/4")
in C10C Kit Bag.



AW1015AK

AW1015AK U.S. Set (Zinc Plated).
AW028 thru AW12 (15 pcs) (.028" to 3/8")
in C154 Kit Bag.



L-Shaped Hex

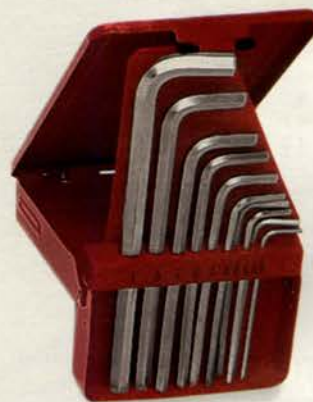
		A
<i>Standard Length</i>		
AW028	0.028	1 1/4
AW035	0.035	1 5/16
AW050	0.050	1 3/4
AW2	1/16	1 3/4
AW2-1/2	5/64	1 7/8
AW3	3/32	2
AW3-1/2	7/64	2 1/8
AW4	1/8	2 1/4
AW4-1/2	9/64	2 3/8
AW5	5/32	2 1/2
AW6	3/16	2 3/4
AW7	7/32	3
AW8	1/4	3 1/4
AW10	9/16	3 3/4
AW12	3/8	4 1/4
AW14	7/16	4 3/4
AW16	1/2	5 1/4
AW18	9/16	5 3/4
AW20	5/8	6 1/4
AW24	3/4	7 1/4
<i>Long</i>		
AWL3	3/32	3 1/8
AWL3-1/2	7/64	3 1/2
AWL4	1/8	3 3/4
AWL4-1/2	9/64	4
AWL5	5/32	4 1/8
AWL6	3/16	4 1/2
AWL7	7/32	4 7/8
AWL8	1/4	5 1/4
AWL10	5/16	6
AWL12	3/8	6 3/4
AWL14	7/16	7 1/2
AWL16	1/2	8 1/4
AWL18	9/16	9
AWL20	5/8	9 3/4

AWL1014K



AWL1014K U.S. Long Set (Zinc Plated).
AWL3 thru AWL20 (14 pcs) (3/32" to 5/8")
in C67 Kit Bag.

AWL1010BHK



AWL1010BHK U.S. Long Set (Zinc Plated).
AWL3 thru AWL12 (10 pcs) (3/32" to 3/8")
in BHK10 Metal Index.



AWL1010K

AWL1010K U.S. Long Set (Zinc Plated).
AWL3 thru AWL12 (10 pcs) (3/32" to 3/8")
in C15B Kit Bag.

L-Shaped Wrenches

AWM140CK

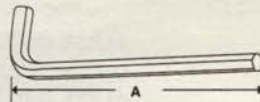


AWM140CK Metric Set. AWM2C thru AWM19C (14 pcs) (2 to 19mm) in a C84B Kit Bag.

AWM110BHK



AWM110BHK Metric Set. AWM2C thru AWM12C (11 pcs) (2 to 12mm) in a BHK11 Metal Index.



Hex



Standard Length

AWM2C	2	47.7
AWM3C	3	58.6
AWM4C	4	65.5
AWM5C	5	75.6
AWM6C	6	82.2
AWM7C	7	92.4
AWM8C	8	99.2
AWM9C	9	105.1
AWM10C	10	111.4
AWM12C	12	139.3
AWM14C	14	138.8
AWM17C	17	167.2
AWM19C	19	193.6

Long

AWML1.5	1.5	77.7
AWML2	2	83.0
AWML2.5	2.5	89.8
AWML3	3	100
AWML4	4	107
AWML5	5	118.5
AWML6	6	141
AWML8	8	161.5
AWML10	10	172
AWML12	12	193.6

AWM110CK

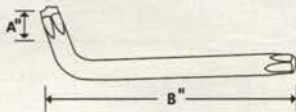


AWM110CK Metric Set. AWM2C thru AWM12C (11 pcs) (2 to 12mm) in C15B Kit Bag.

AWML110



AWML110 Metric Long Set. AWML1.5 thru AWML12C (10 pcs) (1.5 to 12mm).



TORX®

	#	A	B
AWT8A	T8	.137	1 7/8
AWT9A	T9	.148	1 7/8
AWT10A	T10	.162	2
AWT15A	T15	.194	2 1/8
AWT20A	T20	.228	2 1/4
AWT25A	T25	.262	2 3/8
AWT27A	T27	.295	2 1/2
AWT30A	T30	.218	2 3/4
AWT40A	T40	.262	3
AWT45A	T45	.430	3 5/8
AWT50A	T50	.348	3 3/4
AWT55A	T55	.442	4 1/4

AWT100KA TORX® Set. AWT10A thru AWT55A (10 pcs) (T10 to T55) in a plastic pouch.

AWT100KA

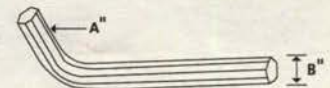


Multi-Spline

	A	B
MS2A	4	.033
MS3A	4	.048
MS4A	6	.060
MS5A	4	.069
MS6A	4	.076
MS7A	6	.072
MS8A	6	.096
MS10A	6	.110
MS16A	6	.144
MS20A	6	.183
MS24A	6	.216
MS28A	6	.251
MS32A	6	.291
MS40A	6	.372
MS48A	6	.454

MS1015KA Set. MS2A thru MS48A (15 pcs) (.033" to .454") in C16 Kit Bag.

MS1010K Set. MS4A thru MS32A (except MS7A) (10 pcs) (.060" to .291") in C16 Kit Bag.



MS1015KA



Ball Hex Sets

Industrial Finish L-Shaped Ball Hex Wrench Sets:

BHS7A Set. (7 pcs) (5/64" to 3/16") in metal index.

Includes: 1/8, 3/16, 3/32, 5/32, 5/64, 7/64, and 9/64 inch wrenches.

BHS13A Set. (13 pcs) (.050" to 3/8") in metal index.

Includes: .050, 1/16, 1/4, 1/8, 3/16, 3/32, 3/8, 5/16, 5/32, 5/64, 7/32, 7/64, and 9/64 inch wrenches.

BHM9A Metric Set. (9 pcs) (1.5 to 10mm) in metal index.

Includes: 1.5, 2, 2.5, 3, 4, 5, 6, 8, and 10mm wrenches.

BHS7A



BHS13A



BHM9A



WARNING

• Read additional safety precautions on pages M1 to M4.

See Warranty Information on inside front cover.

Wrenches

Adjustable



FLANK DRIVE® Plus Adjustable Wrenches Cushion (FADH) and Standard (FAD) Handles

		A"	A mm	B"	B mm
FADH6	FAD6	6	152	3/4	19
FADH8	FAD8	8	203	15/16	24
FADH10	FAD10	10	254	1 1/8	29
FADH12	FAD12	12	304	1 5/16	33

FADH704 Set. FADH6 thru FADH12 (4 pcs) (6" to 12") in a plastic tray.
FAD704 Set. FAD6 thru FAD12 (4 pcs) (6" to 12") in a plastic tray.



FLANK DRIVE® Plus Adjustable Wrenches with Serrated Jaws feature our patented **FLANK DRIVE® Plus** wrenching system for more turning power than ever from an adjustable wrench. Precision-made wrenches feature fractional and metric scales for size reference. **Cushion handle wrenches** feature Elastomer handle surface which is soft yet provides a non-slip gripping surface even for greasy and oily hands. Cushion handle insulates against cold temperatures.



Snap-on® Adjustable Cushion (ADH) and Standard (AD) Handle

Chrome. Design Patent 292,062.

		A"	A mm	B"	B mm
ADH6	AD6	6	152	3/4	19
ADH8	AD8	8	203	15/16	24
ADH10	AD10	10	254	1 1/8	29
ADH12	AD12	12	304	1 5/16	33

ADH704 Set. ADH6 thru ADH12 (4 pcs) (6" to 12") in a plastic tray.
AD704 Set. AD6 thru AD12 (4 pcs) (6" to 12") in a plastic tray.

Blue-Point® Adjustable Wrenches

		A"	A mm	B"	B mm
AJ4	GAJ4	4	102	1/2	13
AJ6	GAJ6	6	152	3/4	19
AJ8	GAJ8	8	203	15/16	24
AJ10	GAJ10	10	254	1 1/8	29
AJ12	GAJ12	12	304	1 5/16	33
AJ15	GAJ15	15	381	1 21/32	42
AJ18	GAJ18	18	457	2 5/32	55
AJ24	GAJ24	24	610	2 7/16	62
—	GAJS30	30	762	3	77

ASME/ANSI B107.8M-1996
GAJS30 Adjustable Wrench. SAE and Metric scales on fixed jaw indicate wrench opening. Fixed jaw and handle are forged in one piece to ensure maximum strength. Side adjusting nut style provides smoother operation, allows greater jaw opening and offers minimum jaw play. Wrench is balanced to minimize wrist strength. Hole in handle for tether or hanging.



Blue-Point® Adjustable with Claw Handle

Wrench end has the capacity of most 10" wrenches in an 8" adjustable wrench body. Fractional and metric scales on adjustable head. Claw end (with back-cut teeth) can be used to turn pipes up to 5/8" (15.9mm) diameter, rounded nuts and stubborn vacuum lines. Hex capacity of claw end is 1/4" to 9/16" (6.4 to 14.3mm).

	A"	A mm	B"	B mm
AJCLAW	8	203	1 1/4	32

Pipe External Pipe Wrenches

	Aluminum Handle Stock No.	A	B
PW6C	—	6	3/4
PW8C	—	8	1
PW10C	PWA10A	10	1 1/2
PW12C	—	12	2
PW14C	PWA14A	14	2
PW18C	PWA18A	18	2 1/2
PW24C	PWA24A	24	3
PW36C	PWA36A	36	5
—	PWA48A	48	6

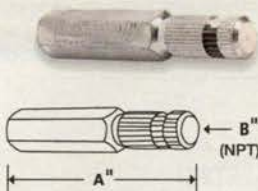


Pipe

Internal Pipe Wrenches

	A	B
PWN12B	3 3/4	3/8
PWN16B	3 3/4	1/2
PWN24B	3 3/4	3/4
PWN32B	3 3/4	1

PWN904B Set. PWN12B thru PWN32B (4 pcs) (3/8" to 1") in plastic pouch.



Pliers Wrench

Features inwardly angled teeth (fine teeth at back of jaws, larger teeth at front of jaws) for a stronger, more secure grip on object. Quick adjustment of grip width. Built-in guard against unthreading. Soft, warm-to-the-touch, high friction handle surfaces with a strong, stable core.

	A	B	C	D	Weight oz.
PWZ1	12 5/8	1 3/4	1/2	3/4	21 1/2
PWZ2	17	2 1/2	5/8	13/16	39

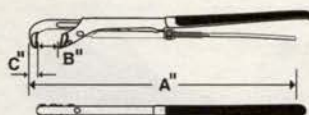
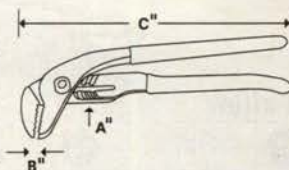


Pipe Wrench Pliers

	A	B	C
PWP7	4	7/8	7
PWP10	7	2 1/4	10 1/4
PWP12	7	2 5/8	13 1/2

•ASME/ANSI B107.23M-1997

PWP303 Set. PWP7 thru PWP12 (3 pcs) in a plastic tray.



Special Application

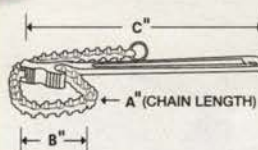
Chain Wrenches

	A	B	C
CW12	16	4	12
CW15	19	5	15
CW24	23	6	24

VGP18110 Chain Wrench. Wraps around and holds irregular shaped objects like oil filters and mufflers quickly and easily. Chain Capacity: up to 6 9/32" (160mm). Handle Length: 9 27/32" (250mm).

VGP181101 Replacement Chain. For VGP18110.

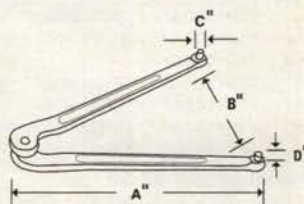
YA826 Strap Wrench. For irregularly shaped objects 1" to 5" in diameter. 22" long. 1" wide. Urethane-coated nylon strap has a tensile strength of 1300 lb. 12" handle.



Adjustable Face Pin Spanners

For servicing seal and packing nuts on hydraulic cylinders.

	A	B	C	D
AFS482B	6 3/8	2	3/16	7/32
AFS483B	8 1/4	3	1/4	3/16
AFS484B	10 3/8	4	5/16	1/4



304APSK



Valve Persuaders (Special order only)

N6893B Valve Persuader Wrench. A "persuader" end provides extra leverage on valve wheels. Hooks around valve stems and protrudes through spokes. 15" long.

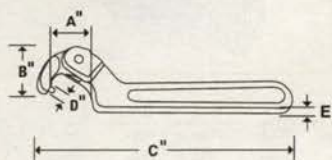


Adjustable Hook Spanners

Serves collars, rings, and bearings. Single jaw and roll pin construction with an industrial finish. When using, make sure jaw hook is properly positioned.

	A	B	C	D
AHS300B	3/4-2	1/8	6 3/8	11/32
AHS301B	1 1/4-3	9/32	8 1/8	13/32
AHS304B	2-4 3/4	3/16	11 3/8	15/32
AHS307B	4 1/2-6 1/2	1/4	12 1/8	15/32

304AHSK Set. AHS300B thru AHS307B (4 pcs) (3/4" to 6 1/2") in C412 Kit Bag.



Adjustable Pin Spanners

Removes rings, collars, and lock nuts.

When using, make sure jaw hook is properly aligned.

	A	B	C	D	E
APS351B	3/4-2	1/8	6 3/8	1/8	11/32
APS357B	1 1/4-3	3/16	8 1/8	3/16	11/32
APS363B	2-4 3/4	1/4	11 3/8	1/4	15/32
APS366B	4 1/2-6 1/4	1/4	12 1/8	3/8	15/32

304APSK Set. APS351B thru APS366B (4 pcs) (3/4" to 6 1/4") in C412 Kit Bag.



WARNING




- When using adjustable wrenches, make sure jaw is properly tightened. Always pull wrench in direction of fixed jaw.
- Read additional safety precautions on pages M1 to M4.



High Performance / Spline




1/4" Drive FLANK DRIVE® Sockets

Shallow

				A	B	C	D	E	F
1/4	TDH8A*	—	TDHB10A	3/8	27/64	57/64	1 1/4	1/4	7/32
5/16	TDH10A*	—	TDHB10A	15/32	15/32	57/64	1 1/4	11/32	17/64

*Aerospace Spec. AS954E




Shallow

				A	B	C	D	E	F
1/4	FDH080A*	FDHB080A	25/64	21/32	23/32	1 1/4	15/64	7/32	
5/16	FDH100A*	FDHB100A	15/32	21/32	23/32	1 1/4	21/64	9/32	
11/32	FDH110A*	—	1/2	21/32	23/32	1 1/4	21/64	21/64	
3/8	FDH120A*	FDHB120A	35/64	21/32	1 1/32	1 1/2	23/64	11/32	
7/16	FDH140A*	FDHB140A	5/8	21/32	1 1/32	1 1/2	7/16	13/32	
1/2	FDH160A*	FDHB160A	23/32	23/32	1 7/32	1 3/4	29/64	19/32	
9/16	FDH180A*	FDHB180A	51/64	51/64	1 7/32	1 3/4	33/64	17/32	

*Aerospace Spec. AS954E




1/2" Drive FLANK DRIVE® Sockets

Shallow




				A	B	C	D	E	F
1/2	—	SDHB160A	47/64	55/64	3/4	1 3/4	7/16	17/32	
5/8	SDH200A*	—	57/64	59/64	3/4	1 3/4	17/32	19/32	
3/4	SDH240A*	—	1 1/16	1	1 3/64	3/4	5/8	23/32	
23/32	SDH250A*	—	1 1/16	1	1 3/64	3/4	5/8	47/64	

*Aerospace Spec. AS954E

Shallow



				A	B	C	D	E
#7	7/32	TES7	GTES7	11/32	27/64	29/64	59/64	7/32
#8	1/4	TES8	GTES8	3/8	27/64	29/64	59/64	17/64
#9	9/32	TES9	—	7/16	3/16	37/64	59/64	19/64
#10	5/16	TES10	GTES10	29/64	29/64	19/32	59/64	21/64
#12	3/8	TES12	—	35/64	35/64	19/32	59/64	23/64
#14	7/16	TES14	—	5/8	39/64	23/32	1 3/64	7/16

Deep

				A	B	C	D	E
#7	7/32	—	GTEL7	11/32	27/64	1 43/64	2	7/32
#8	1/4	TEL8	GTEL8	3/8	7/16	1 43/64	2	17/64
#10	5/16	TEL10	GTEL10	29/64	29/64	1 43/64	2	21/64

Snap-on® high performance sockets are designed for aircraft quality high tensile strength nuts, bolts, and cap screws and work equally well on automotive and industrial fasteners. Socket walls are thinner than normal to provide better access to tight areas. These sockets feature our 12-point **FLANK DRIVE®** wrenching system for strength and turning power. Also see spline wrench features on page 179.



Universal

		A	B	D	E
1/4	TDHU81A	3/8	1/2	1 15/64	1/4
5/16	TDHU101A	29/64	1/2	1 23/64	9/32
3/8	TDHU121A	17/32	1/2	1 15/32	11/32

Aerospace Spec. AS954E

3/8" Drive FLANK DRIVE® Sockets



Universal

		A	B	D	E
5/16	FDHU10	15/32	11/16	1 11/16	19/64
3/8	FDHU12*	17/32	11/16	1 3/4	5/16
7/16	FDHU14A*	5/8	11/16	1 59/64	27/64
1/2	FDHU16A*	23/32	11/16	1 57/64	7/16
9/16	FDHU18A*	25/32	11/16	1 31/32	1/2

*Aerospace Spec. AS954E

1/4" Drive Spline Sockets

Shallow

			A	B	C	D	E
#5	5	TESM5	7.7	10.9	13.2	23.4	5.2
#6	6	TESM6	9.0	10.9	13.2	23.4	6.0

SAE Spec. MA1547A

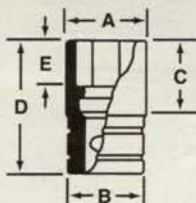
Universal—Shallow

			A	B	D	E
#8	1/4	TESU8	—	3/8	1 15/64	17/64
#10	5/16	TESU10	—	29/64	1 23/64	21/64

SAE Spec. MA1547A

High Performance / Spline

3/8" Drive Spline Sockets

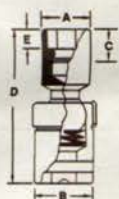


Shallow

				A	B	C	D	E
#12	3/8	FES120	GFES120	35/64	21/32	19/32	1 3/64	23/64
#14	7/16	FES140	GFES140	5/8	11/16	5/8	1 7/64	7/16
#16	1/2	FES160	—	23/32	3/4	39/64	1 7/64	29/64
#18	9/16	FES180	GFES180	53/64	53/64	39/64	1 7/64	15/64
#20	5/8	FES200	—	57/64	57/64	45/64	1 15/64	35/64

Deep

				A	B	C	D	E
#12	3/8	FEL120	GFEL120	35/64	5/8	1 41/64	2 1/8	23/64
#14	7/16	FEL140	GFEL140	41/64	43/64	1 3/4	2 1/8	7/16
#18	9/16	FEL180	GFEL180	53/64	53/64	1 59/64	2 3/8	15/32
#20	5/8	FEL200	—	57/64	57/64	1 27/32	2 3/8	35/64



Universal—Shallow

			A	B	D	E
#12	3/8	FESU120	35/64	3/4	1 31/32	23/64
#14	7/16	FESU140	5/8	3/4	2 3/64	7/16
#16	1/2	FESU160	23/32	3/4	2 5/64	29/64
#18	9/16	FESU180	53/64	3/4	2 1/8	15/32

SWE Spec. MA1547A



Impact

			A	B	C	D	E
#14	7/16	IMFES14	3/4	3/4	5/8	1 7/64	7/16

1/2" Drive Spline Sockets



Shallow

				A	B	C	D	E
#16	1/2	SES161	—	23/32	55/64	5/8	1 19/64	29/64
#18	9/16	SES181	GSES181	53/64	55/64	5/8	1 19/64	15/32
#20	5/8	SES201	—	57/64	57/64	55/64	1 35/64	35/64
#22	11/16	SES221	—	31/32	31/32	27/32	1 35/64	37/64
#24	3/4	SES241	—	1 3/64	31/32	53/64	1 35/64	37/64
#26	13/16	SES261	—	1 1/8	1 1/8	13/16	1 35/64	37/64
#28	7/8	SES281	—	1 3/16	1 1/8	51/64	1 35/64	37/64
#30	15/16	SES301	—	1 17/64	1 17/64	49/64	1 35/64	37/64

308SES Shallow Set. SES161 thru SES301 (8 pcs) (1/2" to 15/16").

3/4" Drive Spline Sockets



Shallow

				A	B	C	D	E
#24	3/4	LES242	—	1 3/64	1 3/8	1	1 51/64	41/64
#30	15/16	LES302	GLES302	1 3/8	1 3/8	1 7/64	1 59/64	51/64
#34	1 1/16	LES342	GLES342	1 35/64	1 19/32	1	2 3/64	57/64

1" Drive Spline Sockets

Shallow

			A	B	C	D	E
#32	1	LES323	1 29/64	1 55/64	1 35/64	2 7/16	53/64
#34	1 1/16	LES343	1 35/64	1 55/64	1 37/64	2 35/64	57/64
#38	1 3/16	LES383	1 23/64	1 63/64	1 25/32	2 51/64	1 1/4



WARNING

- Do not use chrome or industrial finish hand tools with power drivers.
- Read additional safety precautions on pages M1 to M4.



See Warranty Information on inside front cover.

High Performance / Spline *FLANK DRIVE*® Wrenches

XDH605



XDHM606



15° Offset Heads, Box

11	12	A	C	E
7/32-1/4	XDH78A	11/32-3/8	13/64-15/64	7 15/64
1/4-5/16	XDH810B	3/8-29/64	1/4-1/4	8 3/64
5/16-3/8	XDH1012B	29/64-35/64	1/4-19/64	8 7/8
3/8-7/16	XDH1214A	35/64-5/8	19/64-11/32	9 11/16
7/16-1/2	XDH1416A	11/32-3/4	11/32-23/64	10 7/16
1/2-9/16	XDH1618A	23/32-13/16	23/64-13/32	11 7/16
5/8-3/4	XDH2024A	57/64-1 3/64	7/16-31/64	13 9/32
11/16-13/16	XDH2226A	63/64-1 5/64	31/64-17/32	15 5/32

Aerospace Spec. AS954E

XDH605 12-Point Set. XDH810B, XDH1214A, XDH1618A, XDH2024A, and XDH2226A (5 pcs) (1/4" to 13/16") in a plastic tray.



XDHF605

0° Offset Heads, Box

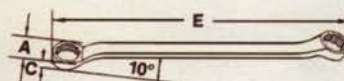
11	12	A	C	E
1/4-5/16	XDHF810	13/32-15/32	7/32-1/4	8 5/16
3/8-7/16	XDHF1214	17/32-5/8	5/16-11/32	10 1/16
1/2-9/16	XDHF1618	23/32-13/16	11/32-13/32	11 3/4
5/8-3/4	XDHF2024	7/8-1 1/32	7/16-15/32	13 5/8
11/16-13/16	XDHF2226	31/32-1 5/32	15/32-17/32	15 5/8

XDHF605 12-Point Set. XDHF810 thru XDHF2226 (5 pcs) (1/4" to 13/16").



0° Offset Heads, Short Handle Box

mm	12	A	C	E
8-10	XDHSFM810	12.1-14.9	6.2-7.6	162.9
10-12	XDHSFM1012	14.4-17.1	7.6-9	190.5
12-14	XDHSFM1214	17.1-20.1	8.5-10.2	208.8
17-19	XDHSFM1719	23.8-26.3	11.3-12.1	260.3



15° Offset Heads, Box

mm	12	A	C	E
8-9	XDHM89	11.6-13	5.8-6.2	219.2
8-10	XDHM810	11.6-14.4	6.2-7.6	225.6
10-11	XDHM1011	14.4-15.6	7.6-8.5	246.3
10-12	XDHM1012	14.4-17.1	7.6-9	264
12-13	XDHM1213	17.1-18.7	9-9	277.6
12-14	XDHM1214	17.1-20.1	9-10.2	289.6
14-15	XDHM1415	20.1-21.5	9.8-10.9	313.1
14-17	XDHM1417	20.1-23.7	9.8-11.3	334.7
15-16	XDHM1516	21.5-22.6	10.9-10.9	334.8
17-19	XDHM1719	23.7-26.3	11.3-12.1	360.1
18-20	XDHM1820	24.9-27.3	12.1-13.6	384

XDHM606 12-Point Set. XDHM89, XDHM1011, XDHM1213, XDHM1415, XDHM1719, and XDHM1820 (6 pcs) (8 to 20mm) in a plastic tray.



0° Offset Heads, Box

mm	12	A	C	E
8-9	XDHFM89	11.6-13	5.8-6.2	226.1
8-10	XDHFM810	11.6-14.4	6.2-7.6	232.7
10-11	XDHFM1011	14.4-15.6	7.6-8.5	253.7
10-12	XDHFM1012	14.4-17.1	8.5-9	272.2
12-13	XDHFM1213	17.1-18.7	9-9	286.2
12-14	XDHFM1214	17.1-20.1	9-10.2	298.4
13-14	XDHFM1314	18.7-20.1	9-9.7	299.2
14-15	XDHFM1415	20.1-21.5	9.8-10.9	323.5
14-17	XDHFM1417	20.1-23.7	9.8-11.3	345
15-16	XDHFM1516	21.5-22.6	10.9-10.9	347.5
17-19	XDHFM1719	23.8-26.3	11.3-12.1	372.1
18-20	XDHFM1820	25-27.3	12.1-13.6	395.7
21-22	XDHFM2122	28.8-30.6	13.7-14.6	421.2
22-24	XDHFM2224	30.6-33.1	14-14.9	445.2

XDHFM606 12-Point Set. XDHFM1011, XDHFM1213, XDHFM1415, XDHFM1516, XDHFM1719 and XDHFM1820 (6 pcs) (6 to 20mm).

Wrenches

High Performance / Spline

Snap-on® spline wrenching tools have been developed to service high tensile strength spline nuts and bolts widely used on both military and commercial aircraft.

Precise, radial spline teeth engage the fastener teeth over a wider area to minimize stress and allow application of high torque without damage to the fastener or to the tool.

Chrome tools comply with Military Spec. MS-33787 and MIL-W-8982d. (Industrial finish tools comply with performance specifications and differ only in finish.) The unique patented spline wrenching configuration can also be used on ordinary 6- and 12-point fasteners with an advantage similar to the Snap-on® **FLANK DRIVE**® wrenching system. U.S. Patent No. 3,675,516 and Canadian Patent No. 826,412 apply.

SPLINE



6-POINT

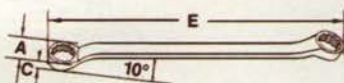


12-POINT



Combination—Short Handle

#	Size	Part #	A	B	C	D	E
#8	1/4	OES8B	13/32	17/32	1/8	5/32	4 1/2
#10	5/16	OES10B	15/32	21/32	11/64	15/64	4 55/64
#12	3/8	OES12B	17/32	25/32	13/64	17/64	5 7/32
#14	7/16	OES14B	5/8	29/32	15/64	5/16	5 27/64
#16	1/2	OES16B	23/32	1 1/16	1/4	9/16	5 47/64
#18	9/16	OES18B	13/16	1 3/16	17/64	21/64	6 1/32
#20	5/8	OES20B	7/8	1 5/16	9/32	11/32	6 5/16
#22	11/16	OES22B	31/32	1 1/16	19/64	23/64	6 39/64
#24	3/4	OES24B	1 1/16	1 9/16	5/16	3/8	6 29/32



15° Offset Heads, Box

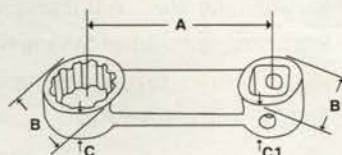
#	Size	Part #	A	C	E
#7-#9	7/32-9/32	XDES79A	11/32-7/16	11/64-13/64	7 1/4
#8-#10	1/4-5/16	XDES810A	3/8-15/32	3/16-7/32	8 1/16
#12-#14	3/8-7/16	XDES1214A	35/64-11/8	5/16-11/32	9 3/4
#16-#18	1/2-9/16	XDES1618A	3/4-13/16	3/8-3/8	11 7/16
#18-#20	9/16-5/8	XDES1820A	13/16-57/64	25/64-13/32	12 3/8

Ratcheting Box

#	Size	Part #	A	C	E	Range
#8-#10	1/4-5/16	RES810A	9/16-5/8	11/32	4 11/16	16-18
#12-#14	3/8-7/16	RES1214A	3/4-7/8	11/32	6 5/32	20-22
#18-#20	9/16-5/8	RES1820A	1 1/8-1 1/4	13/32	7 27/32	20-22
#26-#30	13/16-15/16	RES2630A	1 1/2-1 9/16	7/16	9 25/32	22-22

RES604A Set. RES810A thru RES2630A (4 pcs)
(1/4" to 15/16", #8 to #30 Spline).

Torque Adaptors



Spline—3/8" Drive

#	Size	Part #	Part #	A	B	B1	C	C1
#7	7/32	FRES7	GFRES7	2	.375-.750		1/4-7/16	
#8	1/4	FRES8	GFRES8	2	.400-.750		1/4-7/16	
#9	9/32	FRES9	GFRES9	2	.445-.750		1/4-7/16	
#10	5/16	FRES10	GFRES10	2	.490-.750		1/4-7/16	
#12	3/8	FRES12	GFRES12	2	.590-.750		5/16-7/16	
#14	7/16	FRES14	GFRES14	2	.680-.750		5/16-7/16	
#16	1/2	FRES16	GFRES16	2	.745-.750		5/16-7/16	
#18	9/16	FRES18	GFRES18	2	.825-.750		3/8-7/16	
#20	5/8	FRES20	GFRES20	2	.895-.750		3/8-7/16	
#22	11/16	FRES22	—	2	.997-.750		1/2-7/16	
#24	3/4	FRES24	—	2	1.08-.750		9/16-7/16	

Chrome Set:

FRES611 Set. FRES7 thru FRES24 (11 pcs) (7/32" to 3/4").

Industrial Set:

GFRES609 Set. GFRES7 thru GFRES20 (9 pcs) (7/32" to 5/8").

Spline—1/2" Drive

#	Size	Part #	Part #	A	B	B1	C	C1
#18	9/16	SRES18		3	.818-1.04		13/32-1/2	
#20	5/8	SRES20		3	.900-1.04		1/2-1/2	
#22	11/16	SRES22		3	.989-1.04		1/2-1/2	
#24	3/4	SRES24		3	1.08-1.04		1/2-1/2	
#26	13/16	SRES26		3	1.16-1.04		1/2-1/2	
#28	7/8	SRES28		3	1.26-1.04		1/2-1/2	

SRES306 Set. SRES18 thru SRES28 (6 pcs) (9/16" to 7/8").



WARNING

- Do not use chrome or industrial finish hand tools with power drivers.
- Frequently inspect, clean, and lubricate ratchet mechanism with light oil.
- Read additional safety precautions on pages M1 to M4.



SCREWDRIVERS

Our Interchangeable Ratcheting Screwdriver is not just a set— It's a system of over 50 integrated components that interchange to help you do your job faster and easier than ever.

The foundation is our patented Soft Grip handle that gives you 30% more torque than any other handle design. Interchangeable knurled stainless steel shanks offer you the right length and style for the job. Built-in neodymium magnets hold the bits in place securely.

We offer flat, hex, PHILLIPS®, POZODRIV®, SCRULOX®, and TORX® bits. Also, short, long, flexible and composite shanks as well as 1/4" sq. drive shaft for sockets. It's one awesome system!

- Snap-on has more sizes and styles of screwdrivers to satisfy any job requirements and personal preferences.
- Snap-on offers the most comfortable and most powerful screwdrivers in the world.
- Snap-on innovates... our interchangeable Ratcheting Screwdriver System is a revolutionary breakthrough in form, function and convenience.

Soft Grip Screwdriver

Patented Triangular Cross Section Handle provides a sure comfortable hand grip.

Comfort Crown assists palm for applying maximum pressure.

Contoured Thumb Stop helps when applying maximum pressure.

Hex Bolster allows use of wrench to bust loose tough fasteners.

Special Alloy Steel for tougher, more durable blade.

PHILLIPS®, ACR® Bit provides sure bite between blade and fastener.

Soft Grip Ratcheting Screwdriver System

Reversible Mechanism - easy one-thumb action

Interchangeable Shank

Soft Grip Material provides a sure, comfortable grip

Easy Twist Cap with Bit Holder and Bit storage stores 10 bits and is a low clearance driver



SDE Electronic Series



Spin Cap rests in palm or on finger tip

Square hold for maximum power

Groove and Octagon... hold the groove or octagon for fine turning in tight spaces

Ergonomic Three-Position Handle with Spin Cap for precise control... rotating handle mechanism for precise turning

Plastic handle screwdrivers are still available in black and orange for customers who also like this handle type.



The Stubby



Screwdrivers Soft Grip Combination Sets



SGDX80



SGDX800



SGDX80G

SGDX80 Red Handle Combination Set

8 Tools include:

- | | | |
|------------|----------------------|-----------------------|
| Flat Tip: | SGD1 .037" x 3 3/4" | SGD2 .032" x 7" |
| | SGD4 .037" x 8 7/32" | SGD6 .046" x 10 7/32" |
| | SGD8 .050" x 13 1/2" | |
| PHILLIPS®: | SGDP22IR #2 x 3 1/2" | SGDP31IR #1 x 7" |
| | SGDP42IR #2 x 9" | |

SGDX800 Orange Handle Combination Set

8 Tools include:

- | | | |
|------------|-----------------------|------------------------|
| Flat Tip: | SGD10 .037" x 3 3/4" | SGD20 .032" x 7" |
| | SGD40 .037" x 8 7/32" | SGD60 .046" x 10 7/32" |
| | SGD80 .050" x 13 1/2" | |
| PHILLIPS®: | SGDP22IRO #2 x 3 1/2" | SGDP31IRO #1 x 7" |
| | SGDP42IRO #2 x 9" | |

SGDX80G Green Handle Combination Set. Available as a set only. Same sizes as SGDX80 Set.



SGDXL80

SGDXL800

SGDXL80G

SGDXL80 Red Handle Cabinet Type Set

8 Tools include:

- | | | |
|------------|--------------------------|--------------------------|
| Flat Tip: | SGD146 .030" x 10" | SGD4120 .032" x 16 7/32" |
| | SGD4160 .032" x 20 7/32" | SGD480 .032" x 12 7/32" |
| PHILLIPS®: | SGDP122 #2 x 17" | SGDP162 #2 x 21" |
| | SGDP61 #1 x 10" | SGDP82 #2 x 13" |

SGDXL800 Orange Handle Cabinet Type Set

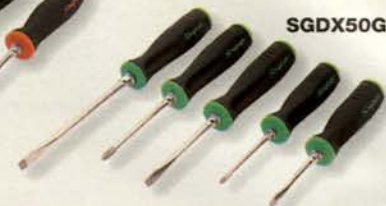
8 Tools include:

- | | | |
|------------|---------------------------|---------------------------|
| Flat Tip: | SGD41600 .032" x 20 7/32" | SGD41200 .032" x 16 7/32" |
| | SGD4800 .032" x 12 7/32" | SGD1460 .030" x 10" |
| PHILLIPS®: | SGDP1220 #2 x 17" | SGDP1620 #2 x 21" |
| | SGDP610 #1 x 10" | SGDP820 #2 x 13" |

SGDXL80G Green Handle Combination Set. Available as a set only. Same sizes as SGDXL80 Set.



SGDX500



SGDX50G



SGDX50

SGDX50 Red Handle Combination Set

5 Tools include:

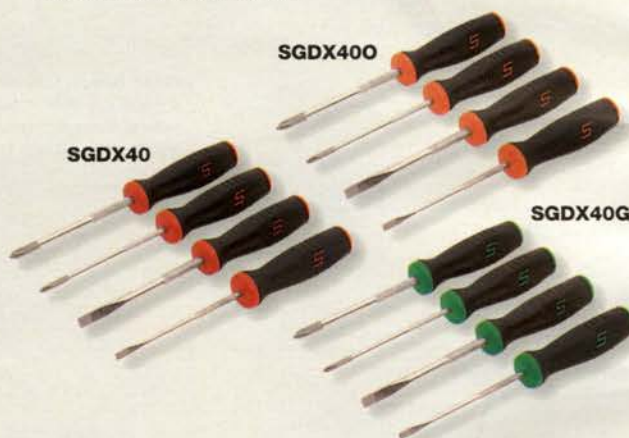
- | | | |
|------------|-----------------------|----------------------|
| Flat Tip: | SGD2 .032" x 7" | SGD4 .037" x 8 7/32" |
| | SGD6 .046" x 10 7/32" | |
| PHILLIPS®: | SGDP31IR #1 x 7" | SGDP42IR #2 x 9" |

SGDX500 Orange Handle Combination Set

5 Tools include:

- | | | |
|------------|------------------------|-----------------------|
| Flat Tip: | SGD20 .032" x 7" | SGD40 .037" x 8 7/32" |
| | SGD60 .046" x 10 7/32" | |
| PHILLIPS®: | SGDP31IRO #1 x 7" | SGDP42IRO #2 x 9" |

SGDX50G Green Handle Combination Set. Available as a set only. Same sizes as SGDX50 Set.



SGDX400

SGDX40

SGDX40G

SGDX40 Red Handle Mini-Tip Set

4 Tools include:

- | | | |
|------------|-----------------------|-----------------------|
| Flat Tip: | SGD304 .020" x 5 3/4" | SGD306 .030" x 5 3/4" |
| PHILLIPS®: | SGDP300 #0 x 6" | SGDP301 #1 x 6" |

SGDX400 Orange Handle Mini-Tip Set

4 Tools include:

- | | | |
|------------|------------------------|------------------------|
| Flat Tip: | SGD3040 .020" x 5 3/4" | SGD3060 .030" x 5 3/4" |
| PHILLIPS®: | SGDP3000 #0 x 6" | SGDP3010 #1 x 6" |

SGDX40G Green Handle Mini-Tip Set

4 Tools include:

- | | | |
|------------|------------------------|------------------------|
| Flat Tip: | SGD304G .020" x 5 3/4" | SGD306G .030" x 5 3/4" |
| PHILLIPS®: | SGDP300G #0 x 6" | SGDP301G #1 x 6" |

Plastic Handle Combination Sets

SDDX110AO Orange Handle Combination Set

10 Tools include:

Flat Tip:	SDD10 .037" x 3 5/16"	SDD20 .032" x 6 1/2"
	SDD40 .037" x 8 3/8"	SDD60 .046" x 10 29/32"
	SDD80 .050" x 13 15/32"	
PHILLIPS®:	SDDP220 #2 x 3 3/4"	SDDP310 #1 x 6 21/32"
	SDDP420 #2 x 8 13/32"	
POZIDRIV®:	SDDZ31 #1 x 6 21/32"	SDDZ42 #2 x 8 13/32"



SDDX800

SDDX800 Orange Handle Combination Set

8 Tools include:

Flat Tip:	SDD10 .037" x 3 5/16"	SDD20 .032" x 6 1/2"
	SDD40 .037" x 8 3/8"	SDD60 .046" x 10 29/32"
	SDD80 .050" x 13 15/32"	
PHILLIPS®:	SDDP220 #2 x 3 3/4"	SDDP310 #1 x 6 21/32"
	SDDP420 #2 x 8 13/32"	



SDDX500

SDDX500 Orange Handle Combination Set

5 Tools include:

Flat Tip:	SDD20 .032" x 6 1/2"	SDD40 .037" x 8 3/8"
	SDD60 .046" x 10 29/32"	
PHILLIPS®:	SDDP310 #1 x 6 21/32"	SDDP420 #2 x 8 13/32"

SDDX40 Black Handle Mini-Tip Combination Set

4 Tools include:

Flat Tip:	SDD304 .018" x 5 3/4"	SDD306 .030" x 5 3/4"
PHILLIPS®:	SDDP300 #0 x 5 13/16"	SDDP301 #1 x 5 13/16"



SDE70

SDE70 Miniature Electronic Combination Set (Red)

7 Tools in a plastic case include:

Flat Tip:	SDE215 1.5mm x 5 3/4"	SDE220 2.0mm x 5 3/4"
	SDE225 2.5mm x 5 3/4"	SDE230 3mm x 5 3/4"
PHILLIPS®:	SDEP20 #0 x 5 3/4"	SDEP200 #00 x 5 3/4"
	SDEP21 #1 x 5 3/4"	

SDDX80 Black Handle Combination Set

8 Tools include:

Flat Tip:	SDD1 .037" x 3 5/16"	SDD2 .032" x 6 1/2"
	SDD4 .037" x 8 3/8"	SDD6 .046" x 10 29/32"
	SDD8 .050" x 13 15/32"	
PHILLIPS®:	SDDP22 #2 x 3 3/4"	SDDP31 #1 x 6 21/32"
	SDDP42 #2 x 8 13/32"	

GSDDX80 Black Handle Combination Set

8 Tools include:

Flat Tip:	GSDD1 .037" x 3 5/16"	GSDD2 .032" x 6 1/2"
	GSDD4 .037" x 8 3/8"	GSDD6 .046" x 10 29/32"
	GSDD8 .050" x 13 15/32"	
PHILLIPS®:	GSDDP22 #2 x 3 3/4"	GSDDP31 #1 x 6 21/32"
	GSDDP42 #2 x 8 13/32"	



SDDXL800

SDDXL800 Orange Handle Long Shank Combination Set

8 Tools include:

Flat Tip:	SDD1460 .030" x 9 7/16"	SDD41200 .032" x 15 3/4"
	SDD41600 .032" x 19 3/4"	SDD4800 .032" x 11 11/16"
PHILLIPS®:	SDDP1220 #2 x 16 13/32"	SDDP1620 #2 x 20 13/32"
	SDDP610 #1 x 9 11/16"	SDDP820 #2 x 12 13/32"

SDDXL80 Black Handle Long Shank Combination Set

8 Tools include:

Flat Tip:	SDD146 .030" x 9 7/16"	SDD4120 .032" x 15 3/4"
	SDD4160 .032" x 19 3/4"	SDD480 .032" x 11 11/16"
PHILLIPS®:	SDDP122 #2 x 16 13/32"	SDDP162 #2 x 20 13/32"
	SDDP61 #1 x 9 11/16"	SDDP82 #2 x 12 13/32"



SDDX400

SDDX400 Orange Handle Mini-Tip Combination Set

4 Tools include:

Flat Tip:	SDD3040 .018" x 5 3/4"	SDD3060 .030" x 5 3/4"
PHILLIPS®:	SDDP3000 #0 x 5 13/16"	SDDP3010 #1 x 5 13/16"

Electronic Service

IHT60K Composite (Insulating) Screwdriver Set

C0612A Kit Bag plus the following 6 Tools:

Flat Tip:	IHTS3 3/16" x 8 3/16"	IHTS6 1/4" x 10 15/16"
	IHTS9 5/16" x 13 15/16"	
PHILLIPS®:	IHTP31 #1 x 8 3/16"	IHTP62 #2 x 10 15/16"
	IHTP63 #3 x 10 15/16"	



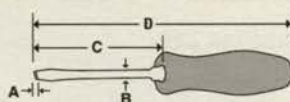
WARNING

- Do not use screwdrivers as prybars, chisels, or punches.
- Discard tools with broken insulation.
- Read additional safety precautions on pages M1 to M4.



Screwdrivers Flat Tip / Soft Grip Handle

Soft, solvent resistant handle material provides a sure, comfortable hand grip. Contour thumb stop and comfort crown help to apply maximum pressure.



Round Shank

Red	Orange	A	B	C	D
SGD1	SGD10	.037	1/4	1 1/8	3 3/4
SGD2	SGD20	.032	7/32	2 27/32	7
SGD4	SGD40	.037	1/4	3 31/32	8 27/32
SGD6	SGD60	.046	5/16	5 31/32	10 27/32
SGD8	SGD80	.050	3/8	8	13 1/2

SGDS50 Red Handle Combination Set. SGD1 thru SGD8 (5 pcs) in a plastic tray.

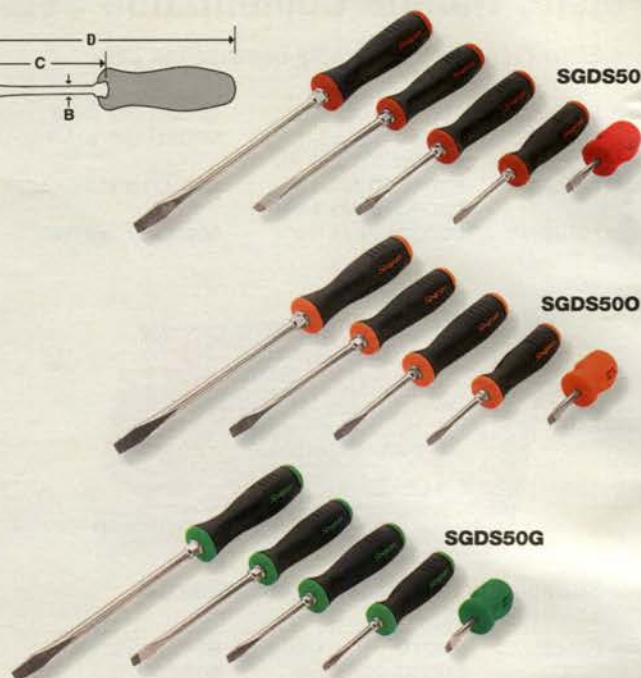
SGDS500 Orange Handle Combination Set. SGD10 thru SGD80 (5 pcs) in a plastic tray.

SGDS50G Green Handle Combination Set. Available as a set only. Same sizes as SGDS50 Set.

SGDX50 Red Handle Combination Set. Includes SGD2 thru SGD6 Flat Tip Drivers plus SGDP31IR and SGDP42IR PHILLIPS® Tip Drivers (pg. 187) (5 pcs) in a plastic tray.

SGDX500 Orange Handle Combination Set. Includes SGD20 thru SGD60 Flat Tip Drivers plus SGDP31IRO and SGDP42IRO PHILLIPS® Tip Drivers (pg. 187) (5 pcs) in a plastic tray.

SGDX50G Green Handle Combination Set. Available as a set only. Same sizes as SGDX50 Set.



SGDX80 Red Handle Combination Set. SGD1 thru SGD8 Flat Tip Drivers plus SGDP22IR, SGDP31IR and SGDP42IR PHILLIPS® Drivers (pg. 187) (8 pcs) in a plastic tray.

SGDX800 Orange Handle Combination Set. SGD10 thru SGD80 Flat Tip Drivers plus SGDP22IRO, SGDP31IRO and SGDP42IRO PHILLIPS® Drivers (pg. 187) (8 pcs) in a plastic tray.

SGDX80G Green Handle Combination Set. Available as a set only. Same sizes as SGDX80 Set.



Mini-Tip

Blades are knurled for easy fingertip turning. See PHILLIPS® tip mini-tip drivers and 4-piece combination PHILLIPS®/flat tip sets.

Red	Orange	Green	A	B	C	D
SGD304	SGD3040	SGD304G	.020	1/8	3	5 3/4
SGD306	SGD3060	SGD306G	.030	3/16	3	5 3/4

SGDX40 Red Handle Combination Set. Includes SGD304 and SGD306 Flat Tip Drivers plus SGDP300 and SGDP301 PHILLIPS® Tip Drivers (pg. 187) (4 pcs) in a plastic pouch.

SGDX400 Orange Handle Combination Set. Includes SGD3040 and SGD3060 Flat Tip Drivers plus SGDP3000 and SGDP3010 PHILLIPS® Tip Drivers (pg. 187) (4 pcs) in a plastic pouch.

SGDX40G Green Handle Combination Set. Includes SGD304G and SGD306G Flat Tip Drivers plus SGDP300G and SGDP301G PHILLIPS® Tip Drivers (pg. 187) (4 pcs) in a plastic pouch.

Cabinet Type

Long shanks for extra reach.

Red	Orange	A	B	C	D
SGD146	SGD1460	.030	3/16	5 13/16	10
SGD480	SGD4800	.032	1/4	7 15/16	12 27/32
SGD4120	SGD41200	.032	1/4	11 15/16	16 27/32
SGD4160	SGD41600	.032	1/4	15 15/16	20 27/32

SGDXL80 Red Handle Combination Set. Includes SGD146, SGD480, SGD4120 and SGD4160 Flat Tip Drivers plus SGDP61, SGDP82, SGDP122 and SGDP162 PHILLIPS® Tip Drivers (pg. 187) (8 pcs) in a plastic tray.

SGDXL800 Orange Handle Combination Set. Includes SGD1460, SGD4800, SGD41200 and SGD41600 Flat Tip Drivers plus SGDP610, SGDP820, SGDP1220 and SGDP1620 PHILLIPS® Tip Drivers (pg. 187) (8 pcs) in a plastic tray.

SGDXL80G Green Handle Combination Set. Available as a set only. Same sizes as SGDXL80 Set.

Flat Tip / Plastic Handle Screwdrivers



SDD4

Round Shank

Chrome/Orange	Chrome/Black	Industrial/Black	A	B	C	D
SDD10*	SDD1*	GSDD1*	.037	1/4	1 1/2	3 5/16
SDD20	SDD2	GSDD2	.032	7/32	2 7/8	6 1/2
SDD40	SDD4	GSDD4	.037	1/4	4	8 3/8
SDD60	SDD6	GSDD6	.046	5/16	6	10 29/32
SDD80	SDD8	GSDD8	.050	3/8	8	13 15/32
SDD100	SDD10	—	.055	3/8	10	15 7/16
SDD120	SDD12	—	.060	7/16	12	18 9/16
SDD1040	—	—	.037	1/4	1 1/2	5 3/32
SDD1530*	—	—	.050	3/8	2 1/2	7 3/8
SDD6160	—	—	.046	5/16	16	20 29/32

*Does not include hex bolster.

SDDS500 Orange Handle Combination Set. SDD10 thru SDD80 (5 pcs) in a plastic tray.

SDDX500 Orange Handle Combination Set. Includes SDD20, SDD40 and SDD60 Flat Tip Drivers plus SDDP310 and SDDP420 PHILLIPS® Tip Drivers (pg. 188) (5 pcs) in a plastic tray.

SDDX800 Orange Handle Combination Set. Includes SDD10, SDD20, SDD40, SDD60 and SDD80 Flat Tip Drivers plus SDDP220, SDDP310 and SDDP420 PHILLIPS® Tip Drivers (pg. 188) (8 pcs) in a plastic tray.

SDD44



Square Shank

The square shank design allows a wrench to be used for developing higher torque.

Black	A	B	C	D
SDD42	.032	3/16	2 3/8	6
SDD44	.037	1/4	4	8 3/8
SDD46	.046	9/32	6	10 29/32
SDD48	.050	5/16	8	13 7/16
SDD412	.060	3/8	12	18 15/32
Heavy Duty				
SDD418	.075	7/16	18	24 5/8
SDD520	.075	1/2	20	26 5/8

SDD3040



Mini-Tip

Blade and tip are exactly the same width. Blades are knurled for easy fingertip turning. See PHILLIPS® mini-tip drivers. See combination mini flat tip/PHILLIPS® tip sets.

Orange	Black	A	C	D
SDD3040	SDD304	.018	3	5 3/4
SDD3060	SDD306	.030	3	5 3/4

SDDX400 Orange Handle Mini-Tip Combination Set. Includes SDD3040 and SDD3060 Flat Tip Drivers plus SDDP3000 and SDDP3010 PHILLIPS® Tip Drivers (pg. 188) (4 pcs) in a plastic pouch.

SDDX40 Black Handle Mini-Tip Combination Set. Includes SDD304 and SDD306 Flat Tip Drivers plus SDDP300 and SDDP301 PHILLIPS® Tip Drivers (pg. 188) (4 pcs) in a plastic pouch.

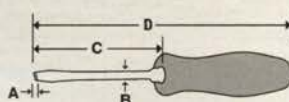


SDD2040

Pocket

Orange Handle	A	B
SDD2040 Magnetic Tip Screwdriver w/ Pocket Clip	.025	4 3/4
SDD2240* Distributor Screwdriver	.025	4 3/4

*Magnet on handle.



SDD40



SDDS500

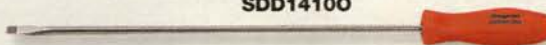


SDDX110AO Orange Handle Combination Set. Includes SDD10, SDD20, SDD40, SDD60 and SDD80 Flat Tip Drivers, SDDP220, SDDP310 and SDDP420 PHILLIPS® Tip Drivers (pg. 188) plus SDDZ31A and SDDZ42A POZIDRIV® Tip Drivers (pg. 190) (10 pcs) in a plastic tray.

SDDX80 Black Handle Combination Set. Includes SDD1 thru SDD8 Flat Tip Drivers plus SDDP22, SDDP31 and SDDP42 PHILLIPS® Tip Drivers (8 pcs) in a plastic tray.

GSDDX80 Black Handle Combination Set. Includes GSDD1 thru GSDD8 Flat Tip Drivers plus GSDDP22, GSDDP31 and GSDDP42 PHILLIPS® Tip Drivers (pg. 188) (8 pcs) in a plastic tray.

SDD14100



Cabinet Type

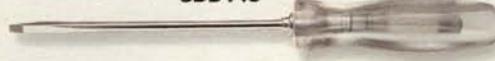
Orange	Black	A	B	C	D
SDD1430	—	.030	.210	3	6 1/4
SDD14160	—	.028	.188	16	19 11/16
SDD4400	—	.032	.250	4	7 11/16
SDD4600	—	.032	.250	6	9 11/16
SDD41000	—	.032	.250	10	13 11/16
SDD1460	SDD146	.030	.210 (3/16)	6	9 7/16
SDD14100	—	.030	.188	10	13 3/16
SDD4800	SDD480	.032	.250 (1/4)	8	11 11/16
SDD41200	SDD4120	.032	.250 (1/4)	12	15 3/4
SDD41600	SDD4160	.032	.250 (1/4)	16	19 3/4

SCDD900 Orange Handle Cabinet Type Set. All Orange Handle SDD Series Drivers (except SDD14160) (9 pcs) in a plastic tray.

SDDXL800 Orange Handle Long Shank Combination Set. Includes SDD1460, SDD4800, SDD41200 and SDD41600 Flat Tip Drivers plus SDDP610, SDDP820, SDDP1220 and SDDP1620 PHILLIPS® Tip Drivers (pg. 188) (8 pcs) in a plastic tray.

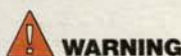
SDDXL80 Black Handle Long Shank Combination Set. Includes SDD146, SDD480, SDD4120 and SDD4160 Flat Tip Drivers plus SDDP61, SDDP82, SDDP122 and SDDP162 PHILLIPS® Tip Drivers (pg. 188) (8 pcs) in a plastic tray.

SDD145



Spark Test

Clear Handle	A	D
SDD214 Screwdriver with Pocket Clip	.025 x 1/8	5 1/8
SDD145 Screwdriver	.025 x 1/8	8 13/16

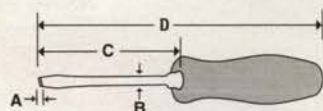


WARNING

- Do not use screwdrivers as prybars, chisels or punches.
- Discard tools with broken insulation.
- Read additional safety precautions on pages M1 to M4.



Screwdrivers Flat Tip / Plastic Handle



SDD4220



Miscellaneous

Chrome/ Orange	Industrial/ Orange	A	B	C	D
SDD2320	—	.025	1/8	2	4 3/4
—	SDD4220*	.046	5/16	2 1/4	26 21/32
SDD2340	—	.018	9/64	3	6 13/16

*Extra Long

Electronic Thin Blade

Blades are knurled to allow for easy finger turning. Handles have recessed ends for finger position.

Black

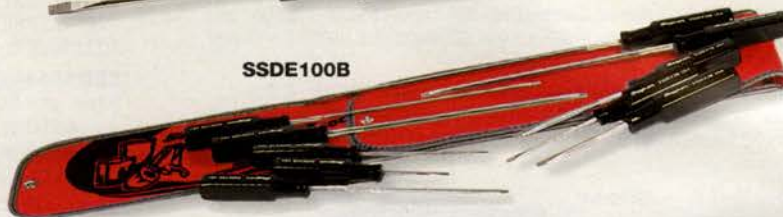
	A	C	D
SSDE42B	.018 x 1/8	2	5 5/16
SSDE43B	.018 x 1/8	3	6 5/16
SSDE44B	.018 x 1/8	4	7 5/16
SSDE46B	.018 x 1/8	6	9 5/16
SSDE48B	.018 x 1/8	8	11 15/16
SSDE63B	.030 x 3/16	3	6 9/16
SSDE64B	.028 x 3/16	4	7 9/16
SSDE66B	.030 x 3/16	6	9 9/16
SSDE68B	.028 x 3/16	8	11 9/16
SSDE610B	.030 x 3/16	10	13 9/16

SSDE100B Set. SSDE42B thru SSDE610B (10 pcs)
in C109B Kit Bag.

SSDE43B



SSDE100B



SDE70



SDE230



Electronic Miniature

Features a rotating handle mechanism that makes them ideal for precise, detailed electronics work.

	A	B	C	D
SDE215	1.5	3/32	2	5 3/4
SDE220	2.0	3/32	2	5 3/4
SDE225	2.5	3/32	2	5 3/4
SDE230	3.0	1/8	2	5 3/4

SDE70 Red Handle Miniature Set. Includes SDE215 thru SDE230 Flat Tip Drivers plus SDEP200, SDEP20, and SDEP21 PHILLIPS® Tip Drivers (pg. 188) (7 pcs) in a plastic pouch.

SSDE33



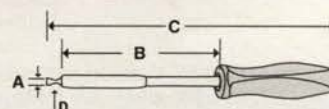
Potentiometer Adjuster

SSDE33. Chrome, black handle, with a tip width of .015 x 3/32, a blade length of 3" and an overall length of 5 9/16". Features a pocket clip. Use for adjusting potentiometers only.

Flat Tip / Electronic Service

Insulating screwdrivers require that there is **NO** conductor of electricity within the screwdriver shaft, while the definition of *insulated* screwdrivers means that a metal shank has been **COATED** with a nonconductive material. Insulating screwdrivers feature shafts developed from a nonconductive braided epoxy/glass fiber composite, with metal bit holder attached to the shank via a composite sleeve. Performance is comparable to a steel shank screwdriver. Bits are manufactured from a high strength alloy steel and can be removed or replaced if worn or damaged. Each tool is individually tested to ensure protection up to 1000V.

These tools also meet Standard IEC60900 for dielectric strength and design requirements, ASTM Type Test Requirements and ASME B107.15-1993 torsion requirements. U.S. Patent Number 5,259,277 applies.



IHTS6



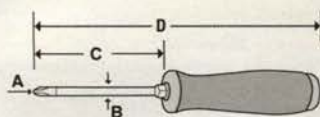
Composite (Insulating)

Flat Tip Bits

	A	B	C	D
IHTS3	3/16	3 1/4	8 3/16	IHTS65
IHTS37	7/32	3 1/4	8 3/16	IHTS375
IHTS38	1/4	3 1/4	8 3/16	IHTS685
IHTS6	1/4	6	11	IHTS685
IHTS610	5/16	6	11	IHTS6105
IHTS9	5/16	9	14	IHTS6105
IHTS912	3/8	9	14	IHTS9125

IHT60K Insulating Screwdriver Set. Includes flat tip drivers IHTS3, IHTS6, and IHTS9 plus PHILLIPS® tip drivers IHTP31, IHTP62 and IHTP63 (pg. 189) (6 pcs.) (3/16" to 5/16" and #1 to #3) in C0612A Kit Bag.

PHILLIPS® Tip / Soft Grip Handle Screwdrivers



Soft, solvent resistant handle material provides a sure, comfortable hand grip. Contour thumb stop and comfort crown help to apply maximum pressure.

SGDP42IR



SGDP42IRO



Standard

Red	Orange	A	B	C	D
SGDP22IR	SGDP22IRO	#2	1/4	1 1/2	3 1/2
SGDP31IR	SGDP31IRO	#1	3/16	3	7
SGDP42IR	SGDP42IRO	#2	1/4	4	9
SGDP63IR	SGDP63IRO	#3	5/16	6	11
SGDP64	SGDP64O	#4	3/8	6	11 1/2

SGDP50IR Red Handle Set. SGDP22IR thru SGDP64 (5 pcs) in a plastic tray.

SGDP50IRO Orange Handle Set. SGDP22IRO thru SGDP64O (5 pcs) in a plastic tray.

SGDP50IRG Green Handle Set. Available as set only. Same sizes as SGDP50IR Set.

SGDX50 Red Handle Combination Set. Includes SGD2 thru SGD6 Flat Tip Drivers (pg. 184) plus SGDP31IR and SGDP42IR PHILLIPS® Tip Drivers (5 pcs) in a plastic tray.

SGDX50O Orange Handle Combination Set. Includes SGD20 thru SGD60 Flat Tip Drivers (pg. 184) plus SGDP31IRO and SGDP42IRO PHILLIPS® Tip Drivers (5 pcs) in a plastic tray.

SGDX50G Green Handle Combination Set. Available as a set only. Same sizes as SGDX50 Set.

SGDX80 Red Handle Combination Set. SGD1 thru SGD8 Flat Tip Drivers (pg. 184) plus SGDP22IR, SGDP31IR and SGDP42IR PHILLIPS® Drivers (8 pcs) in a plastic tray.

SGDX80O Orange Handle Combination Set. SGD10 thru SGD80 Flat Tip Drivers (pg. 184) plus SGDP22IRO, SGDP31IRO and SGDP42IRO PHILLIPS® Drivers (8 pcs) in a plastic tray.

SGDX80G Green Handle Combination Set. Available as a set only. Same sizes as SGDX80 Set.

SGDP82



SGDP300



SGDP301



Cabinet Type

Long shanks for extra reach.

Red	Orange	A	B	C	D
SGDP61	SGDP61O	#1	3/16	6	10
SGDP82	—	#2	1/4	8	13
SGDP101	SGDP82O	#1	3/16	10	14
SGDP102	—	#2	1/4	9 1/2	14 1/2
SGDP122	SGDP122O	#2	1/4	12	17
SGDP162	SGDP162O	#2	1/4	16	21

SGDXL80 Red Handle Combination Set. Includes SGD146, SGD480, SGD4120 and SGD4160 Flat Tip Drivers (pg. 184) plus SGDP61, SGDP82, SGDP122 and SGDP162 PHILLIPS® Tip Drivers (8 pcs) in a plastic tray.

SGDXL80O Orange Handle Combination Set. Includes SGD146O, SGD480O, SGD4120O and SGD4160O Flat Tip Drivers (pg. 184) plus SGDP61O, SGDP82O, SGDP122O and SGDP162O PHILLIPS® Tip Drivers (8 pcs) in a plastic tray.

SGDXL80G Green Handle Combination Set. Available as a set only. Same sizes as SGDXL80 Set.

Mini-Tip

Blades are knurled for easy fingertip turning.

		A	B	C	D
SGDP300	Red	#0	1/8	3	6
SGDP300O	Orange	#0	1/8	3	6
SGDP300G	Green	#0	1/8	3	6
SGDP301	Red	#1	1/8	3	6
SGDP301O	Orange	#1	1/8	3	6
SGDP301G	Green	#1	1/8	3	6

SGDX40 Red Handle Combination Set. Includes SGD304 and SGD306 Flat Tip Drivers (pg. 184) plus SGDP300 and SGDP301 PHILLIPS® Tip Drivers (4 pcs) in a plastic pouch.

SGDX40O Orange Handle Combination Set. Includes SGD304O and SGD306O Flat Tip Drivers (pg. 184) plus SGDP300O and SGDP301O PHILLIPS® Tip Drivers (4 pcs) in a plastic pouch.

SGDX40G Green Handle Combination Set. Includes SGD304G and SGD306G Flat Tip Drivers (pg. 184) plus SGDP300G and SGDP301G PHILLIPS® Tip Drivers (4 pcs) in a plastic pouch.



WARNING

- Do not use screwdrivers as prybars, chisels, or punches.
- Read additional safety precautions on pages M1 to M4.

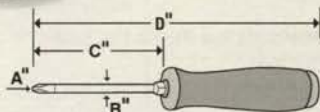


Screwdrivers

SDDP42



SDDP420



Standard

Designed for turning PHILLIPS® screws.
Do not interchange POZIDRIV® or PHILLIPS® screwdrivers.

Chrome/Orange	Chrome/Black	Industrial/Black	A	B	C	D
SDDP210	—	—	#1	3/16	1	2 3/4
SDDP220	SDDP22	GSDDP22	#2	1/4	1 1/2	3 3/4
SDDP310	SDDP31	GSDDP31	#1	3/16	3	6 21/32
SDDP420	SDDP42	GSDDP42	#2	1/4	4	8 13/32
SDDP610	—	—	#1	3/16	6	9 11/16
SDDP620	SDDP62	—	#2	1/4	6	10 13/32
SDDP630	SDDP63	—	#3	5/16	6	10 7/8
SDDP640	SDDP64	—	#4	3/8	6	11 1/2
SDDP820	SDDP82	—	#2	1/4	8	12 13/32
SDDP1010	—	—	#1	3/16	10	13 21/32
SDDP1020	—	—	#2	1/4	9 1/2	13 7/8
SDDP1220	SDDP122	—	#2	1/4	12	16 13/32
SDDP1230	—	—	#3	1/4	12	16 15/16
SDDP1620	SDDP162	—	#2	1/4	16	20 13/32
SDDP2420	—	—	#2	1/4	1 1/2	5 29/32
SDDP2430	—	—	#2	1/4	3	4 3/4

SDDP3010



Mini-Tip

Blades are knurled for easy fingertip turning. See flat tip mini-tip drivers and 4-piece combination PHILLIPS®/flat tip sets.

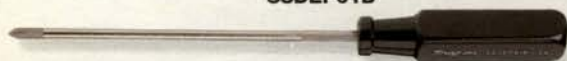
Orange	A	C	D
SDDP3000	#0	3	5 13/16
SDDP3010	#1	3	5 13/16
SDDP300	#0	3	5 13/16
SDDP301	#1	3	5 13/16

SDDX400 Orange Handle Combination Set. Includes SDD3040 and SDD3060 Flat Tip Drivers (pg. 185) plus SDDP3000 and SDDP3010 PHILLIPS® Tip Drivers (4 pcs) in a plastic pouch.

SDDX40 Black Handle Combination Set. Includes SDD304 and SDD306 Flat Tip Drivers (pg. 185) plus SDDP300 and SDDP301 PHILLIPS® Tip Drivers (4 pcs) in a plastic pouch.

PHILLIPS® Tip / Electronic Service

SSDEP61B



Electronic Thin Blade

Blades are knurled to allow for easy finger turning.
Black plastic handles have recessed ends for fingertip pressure.

	A	C	D
SSDEP30B	#0	3	6 3/8
SSDEP31B	#1	3	6 5/8
SSDEP60B	#0	6	9 3/8
SSDEP61B	#1	6	9 5/8
SSDEP101B	#1	10	13 5/8

PHILLIPS® Tip / Plastic Handle

SDDP500



SDDP500 Orange Handle Set. SDDP220, SDDP310, SDDP420, SDDP630, and SDDP640 (5 pcs) in a plastic tray.

SDDX500 Orange Handle Combination Set. Includes SDD20, SDD40 and SDD60 Flat Tip Drivers (pg. 185) plus SDDP310 and SDDP420 PHILLIPS® Tip Drivers (5 pcs) in a plastic tray.

SDDX800 Orange Handle Combination Set. Includes SDD10, SDD20, SDD40, SDD60 and SDD80 Flat Tip Drivers (pg. 185) plus SDDP220, SDDP310 and SDDP420 PHILLIPS® Tip Drivers (8 pcs) in a plastic tray.

SDDX80 Black Handle Combination Set. Includes SDD1, SDD2, SDD4, SDD6 and SDD8 Flat Tip Drivers (pg. 185) plus SDDP22, SDDP31 and SDDP42 PHILLIPS® Tip Drivers (8 pcs) in a plastic tray.

GSDDX80 Black Handle Combination Set. Includes GSDD1, GSDD2, GSDD4, GSDD6 and GSDD8 Flat Tip Drivers (pg. 185) plus GSDDP22, GSDDP31 and GSDDP42 PHILLIPS® Tip Drivers (8 pcs) in a plastic tray.

SDDXL800 Orange Handle Combination Set. Includes SDD1460, SDD4800, SDD41200 and SDD41600 Flat Tip Drivers (pg. 185) plus SDDP610, SDDP820, SDDP1220 and SDDP1620 PHILLIPS® Tip Drivers (8 pcs) in a plastic tray.

SDDXL80 Black Handle Combination Set. Includes SDD146, SDD480, SDD4120 and SDD4160 Flat Tip Drivers (pg. 185) plus SDDP61, SDDP82, SDDP122 and SDDP162 PHILLIPS® Tip Drivers (8 pcs) in a plastic tray.

SDDX110AO Orange Handle Combination Set. Includes SDD10, SDD20, SDD40, SDD60 and SDD80 Flat Tip Drivers (pg. 185), SDDP220, SDDP310 and SDDP420 PHILLIPS® Tip Drivers plus SDDZ31A and SDDZ42A POZIDRIV® Tip Drivers (pg. 190) (10 pcs) in a plastic tray.

SDDP2040



Pocket

Orange	A	D
SDDP2040	#1	4 13/16

Miscellaneous

Black	A	B	C	D
SDDP319	Short	#1	1/8	3 1/4
SDDP216	Long	#2	3/16	16
SDDP422	Extra Long	#2	1/4	21 3/4

SDEP21



SDE70



Electronic Miniature

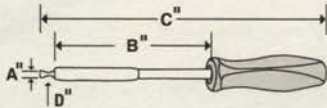
Feature a rotating handle mechanism that makes them ideal for precise, detailed electronics work.

	A	B	C	D
SDEP200	#00	1/8	2	5 3/4
SDEP20	#0	1/8	2	5 3/4
SDEP21	#1	3/16	2	5 3/4

SDE70 Red Handle Miniature Set. Includes SDE215 thru SDE230 Flat Tip Drivers (pg. 186) plus SDEP200, SDEP20, and SDEP21 PHILLIPS® Tip Drivers (7 pcs) in a plastic pouch.

PHILLIPS® Tip / Electronic Service

Insulating screwdrivers require that there is **NO conductor** of electricity within the screwdriver shaft, while the definition of insulated screwdrivers means that a metal shaft has been **COATED** with a nonconductive material. Insulating screwdrivers have shafts developed from a nonconductive braided epoxy/glass fiber composite, with a metal bit holder attached to the shank via a composite sleeve. Performance is comparable to a steel shank screwdriver. Bits are manufactured from a high strength alloy steel and can be removed or replaced if worn or damaged. Each tool is individually tested to ensure protection up to 1000V. These tools also meet Standard IEC60900 for dielectric strength and design requirements, ASTM Type Test Requirements and ASME B107.15-1993 torsion requirements. U.S. Patent Number 5,259,277 applies.



IHTP62

Composite Insulating

	A	B	C	D
IHTP31	#1	3 1/4	8 3/16	IHTP315
IHTP62	#2	6	11	IHTP625
IHTP63	#3	6	11	IHTP635

IHT60K Composite Insulating Combination Set. Includes flat tip drivers IHTS3, IHTS6, and IHTS9 (pg. 186) plus PHILLIPS® tip drivers IHTP31, IHTP62 and IHTP63 (6 pcs) (3/16" to 5/16" and #1 to #3) in CO612A Kit Bag.

TORX® Tip / Soft Grip

Soft, solvent resistant handle material provides a sure, comfortable hand grip. Contour thumb stop and comfort crown help to apply maximum pressure.

SGDTX315

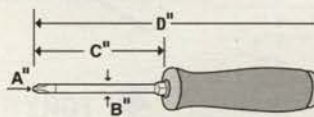
Standard

Designed for internal-type TORX® fasteners used in the automotive and appliance industries.

Red

	A	B	C	D
SGDTX315	T15	3/16	3	7
SGDTX320	T20	3/16	3	7
SGDTX425	T25	3/16	3	7
SGDTX427	T27	7/32	3	7
SGDTX430	T30	1/4	4	9

SGDTX50A Red Handle Set. SGDTX315 thru SGDTX430 (5 pcs) (T15 thru T30) in plastic tray.



SGDTRX425

Tamper Proof

A hole in the end of each bit tip fits over a peg in the center of the TORX® tamper-resistant fasteners.

Red

	A	B	C	D
SGDTRX315	T15	3/16	3	7
SGDTRX320	T20	3/16	3	7
SGDTRX425	T25	3/16	3	7
SGDTRX427	T27	7/32	3	7
SGDTRX430	T30	1/4	4	9

SGDTRX50A Red Handle Set. SGDTRX315 thru SGDTRX430 (5 pcs) (T15 to T30) in a plastic tray.

SGDT320

Mini-Tip

Designed for internal-type TORX® fasteners used in the automotive and appliance industries.

Red	Orange	Green	A	B	C	D
SGDT308	SGDT308O	SGDT308G	T8	3/16	3	6
SGDT310	SGDT310O	SGDT310G	T10	3/16	3	6
SGDT315	SGDT315O	SGDT315G	T15	3/16	3	6
SGDT320	SGDT320O	SGDT320G	T20	3/16	3	6

SGTX40 Red Handle Set. SGDT308 thru SGDT320 (4 pcs) (T8 to T20).

SGTX40O Orange Handle Set. SGDT308O thru SGDT320O (4 pcs) (T8 to T20).

SGTX40G Green Handle Set. SGDT308G thru SGDT320G (4 pcs) (T8 to T20).



SGTX40



WARNING

- Do not use screwdrivers as prybars, chisels, or punches.
- Discard tools with broken insulation.
- Read additional safety precautions on pages M1 to M4.

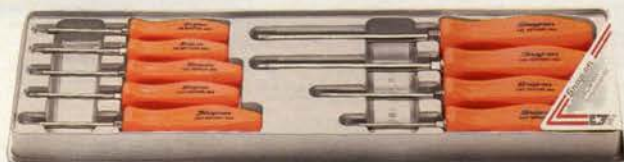
Screwdrivers

TORX® Tip / Plastic Handle

SDTX4270



SDTX90AO



Standard

Designed for turning internal-type TORX® fasteners used in the automotive and appliance industries.

Orange	Black	A	B	C	D
SDTX38AO	SDTX38A	T8	5/32	3	6 1/4
SDTX310AO	SDTX310A	T10	5/32	3	6 1/4
SDTX315O	SDTX315	T15	5/32	3 1/2	6 3/4
SDTX320O	SDTX320	T20	5/32	3 1/2	6 3/4
SDTX425O	SDTX425	T25	7/32	4	7 13/32
SDTX427O	SDTX427	T27	1/4	4 1/2	7 13/32
SDTX430O	SDTX430	T30	1/4	4 1/2	8 11/32
SDTX640O	SDTX640	T40	5/16	6	10 29/32
SDTX645O	SDTX645	T45	5/16	6	10 29/32

SDTX90AO Orange Handle Set. SDTX38AO, SDTX310AO, and SDTX315O thru SDTX645O (9 pcs) (T8, T10, T15 to T45) in a plastic tray.

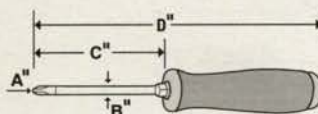
SDTX90A Black Handle Set. SDTX38A, SDTX310A, and SDTX315 thru SDTX645 (9 pcs) (T8, T10, T15 to T45) in a plastic tray.

TORX® Mini-Tip Set

SDTX400 Orange Handle Set.

Available as set only. Includes T8, T10, T15 and T20 tip sizes. 3" blade length with 5 3/4" overall length. 4 Tools.

SDTX400



SDET29



SDET70



TORX® Electronic Miniature

Feature a rotating handle mechanism that makes them ideal for precise, detailed electronics work. Blades are manufactured to exacting tolerances from special heat treated alloy steel. Blade finish is industrial black.

	A	B	C	D
SDET26	T6	1/8	2	5 3/4
SDET27	T7	1/8	2	5 3/4
SDET28	T8	1/8	2	5 3/4
SDET29	T9	1/8	2	5 3/4
SDET210	T10	1/8	2	5 3/4
SDET215	T15	3/16	2	5 3/4
SDET220	T20	3/16	2	5 3/4

SDET70 Electronic Miniature Set. SDET26 thru SDET220 (7 pcs) (T6 thru T10, T15, T20) in vinyl pouch.

POZIDRIV® Tip

Standard

The walls on POZIDRIV® tips are not as tapered as those on PHILLIPS® tips and have wedges for a tight fit on POZIDRIV® fasteners. PHILLIPS® drivers should not be used on POZIDRIV® fasteners (and vice versa) as they tend to ride out of the recess and round the corners of both the tool and the screw recess. For instant identification, the POZIDRIV® handle is silver grey.

	A	B	C	D
SDDZ22A	2	1/4	1 1/2	3 3/8
SDDZ31A	1	3/16	3	6 21/32
SDDZ42A	2	1/4	4	8 13/32
SDDZ63A	3	5/16	6	11 1/16
SDDZ84A	4	3/8	8	13 1/2

SDDZ50A POZIDRIV® Set. SDDZ22A thru SDDZ84A (5 pcs) (#1 to #4) in a plastic tray.

SDDZ22A



SDDZ42A



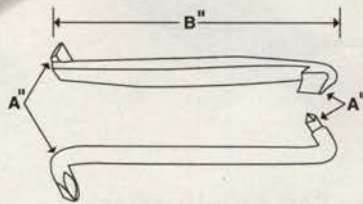
SDDZ50A



Special Application Screwdrivers

012C

020A



— + 90° Offset

		A	B
012C	PHILLIPS®	#1 and #2	4 3/4
034C	PHILLIPS®	#3 and #4	6
020A	Flat Tip	.025 x 1/4"	4
030A	Flat Tip	.030 x 5/16"	4 1/16
040A	Flat Tip	.046" x 3/8"	5 1/2

ST50 90° Offset Combination Set. 020A, 030A and 040A Flat Tip Drivers plus 012C and 034C PHILLIPS® Tip Drivers (5 pcs) in a plastic case.

S6180



DZUS Fastener Driver

S6180 For DZUS-type fasteners used in aircraft and auto racing applications. Blade is 2" long. Overall length is 6 13/32".

SDDD44



SDDDM1R



SDDD42



Reversible Blade Screwdriver and Sets

SDDDM1R Reversible Blade Screwdriver. 1/4" hex reversible double-ended blade (flat tip and PHILLIPS® #1) fits easily in red handle. Magnet in handle for secure blade retention. Handle length of 2 3/4".

SDDD44 Flat Tip/PHILLIPS®/TORX® Set. Black handle. Includes four double-ended square shank blades. Eight tip configurations in all: three flat tip (.039" x 1/4", .039" x 5/16", and .034" x 3/16"); three PHILLIPS® tip (#1, #2, and #3); and two TORX® tip (T15 and T20) packaged in CO501 Kit Bag.

SDDD42 Flat Tip/PHILLIPS® Set. Black handle. Includes one double-ended square shank blade with .039" x 1/4" flat tip on one end and #2 PHILLIPS® tip on the other.

YA480B



YA487K



Ratcheting Offset Screwdrivers

YA480B Offset Ratcheting Screwdriver. One-way bearing allows turning in one direction only. Insert bit in one side of bearing or the other to get right or left hand turning power. A knurled knob helps to keep bit firmly seated when palm pressure is exerted. Includes one each: flat tip, #2 PHILLIPS®, and #2 POZIDRIV® bits. 3 7/8" long.

YA487K Mini Ratcheting Handle Set. Includes YA488, YA489 and YA490 Mini Ratcheting Handles plus SDM213B Flat Tip Bit, SDM221C (#1) and SDM222ZB (#2) PHILLIPS® Bits and SDMT15D TORX® Bit.

YA488 Mini Ratcheting Handle. 25° Reverse Offset handle.

YA489 Mini Ratcheting Handle. Straight handle.

YA490 Mini Ratcheting Handle. 25° Offset handle.

All handles have a magnetic holder to provide secure bit retention.

Knurled for fingertip control. Red vinyl grip. 4 1/4" long. Use with 1/4" hex bits.

CM6551



Miniature Screwdriver / Awl Set

CM6551 Includes 4 blades in the following flat tip sizes: .055", .070", .080", and .100". Also includes an awl and plastic pouch for storage.

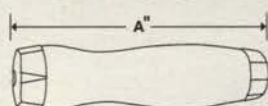


WARNING

- Do not use screwdrivers as prybars, chisels, or punches
- Read additional safety precautions on pages M1 to M4.



Screwdrivers Ratcheting Screwdrivers / Soft Grip Handle System



SGDMRC40

SGDMRC4

SGDMRC4G

SGDMRC1



Stubby and Standard Handles feature soft, solvent resistant cover material to provide a positive gripping surface. "Thumbs up" forward/reverse lever for quick directional changes. Contoured thumb stop at base of handle helps user apply maximum pressure to the fastener. Smooth ratcheting mechanism (U.S. Patent 4,777,852).

Standard Handle Only features 1/4-turn twist cap for quick access to bit storage in handle. Cap also functions as a bit holder when working in tight quarters. Handle stores up to 10 bits. Ergonomic handle shape (Design Patent 421,888) provides comfort and control. Comfort crown of handle cap provides a low-friction surface for palm when turning screwdriver.

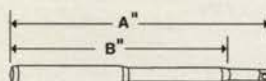
Soft Grip Handles

			A
SGDMRC1	Stubby	Red	2 5/8
SGDMRC10	Stubby	Orange	2 5/8
SGDMRC1G	Stubby	Green	2 5/8
SGDMRC4	Standard	Red	6
SGDMRC40	Standard	Orange	6
SGDMRC4G	Standard	Green	6

Interchangeable Shanks

Every shank is interchangeable with every handle in the Soft Grip Ratcheting Screwdriver System. Choose just the right combination of shank and handle to meet your job needs. Magnetic bit holding shanks in short, medium and long lengths plus a special composite (insulating) magnetic bit holding shank provide great job flexibility in almost any circumstance. Neodymium magnet in shank (U.S. Patent RE36,797) holds bit securely. 1/4" square drive shanks, in both standard and flexible styles, allow the attachment of a wide range of 1/4" drive sockets and accessories.

		A	B
SGDMRC1-10	Magnetic Bit Holder	2	3 1/4
SGDMRC4-40	Magnetic Bit Holder	3 3/4	5
SGDMRC4-80	Magnetic Bit Holder	7 3/4	9
SGDMRC4-TM4	1/4" Sq. Dr. Shank	3 3/4	5
SGDMRC4-TMF4	Flexible 1/4" Sq. Dr. Shank	5	6 1/4
SGDMRC4-C6	Composite (Non-Conductive)	6	7 1/4



SGDMRC1-10



SGDMRC4-40



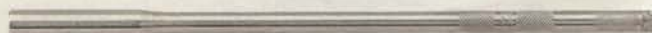
SGDMRC4-TM4



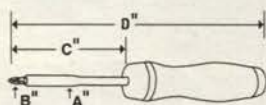
SGDMRC4-TMF4



SGDMRC4-C6



SGDMRC4-80



SGDMRC11

SGDMRC44

SGDMRC440

SGDMRC44G



Complete Screwdrivers

Red, Green, or Orange—it's your choice to get started with a complete screwdriver from the Soft Grip Ratcheting Screwdriver System. Perfectly matched combinations of magnetic bit holding shanks and handles means you can choose just what you need for your particular requirements.

			A	B	B	C	D
SGDMRC11	Red	SGDMRC1	SGDMRC1-10	—	—	2	4 1/2
SGDMRC110	Orange	SGDMRC10	SGDMRC1-10	—	—	2	4 1/2
SGDMRC11G	Green	SGDMRC1G	SGDMRC1-10	—	—	2	4 1/2
SGDMRC44	Red	SGDMRC4	SGDMRC4-40	SDM213B	SDM222IRB	3 7/8	9 3/4
SGDMRC440	Orange	SGDMRC40	SGDMRC4-40	SDM213B	SDM222IRB	3 7/8	9 3/4
SGDMRC44G	Green	SGDMRC4G	SGDMRC4-40	SDM213B	SDM222IRB	3 7/8	9 3/4

Ratcheting Screwdrivers / Soft Grip Handle System

Soft Grip Ratcheting Screwdriver Sets

If a Soft Grip Ratcheting Screwdriver Set is what you want, Snap-on has it. The SGDMRC103 Starter Sets include a standard handle, medium and long magnetic bit holding shanks plus two flat tip bits, two PHILLIPS® bits and one TORX® bit to meet most basic job requirements.



SGDMRC103 Red Handle Starter Set. Includes:

SGDMRC4	Ratcheting Handle
SGDMRC4-40	Magnetic Shank/Bit Holder
SGDMRC4-80	Magnetic Shank/Bit Holder
SDM211B	3/16" Flat Tip bit
SDM213B	9/32" Flat Tip bit
SDM221IRB	#1 PHILLIPS® ACR® bits
SDM222IRB	#2 PHILLIPS® ACR® bits
SDMT15D	T15 TORX® bit
PB146	Storage Case.

SGDMRC103O Orange Handle Starter Set.

Same as SGDMRC103 Set except has SGDMRC4O orange ratcheting handle.

SGDMRC103G Green Handle Starter Set.

Same as SGDMRC103 Set except has SGDMRC4G green ratcheting handle.

If you want it all, then get a SGDMRC108 Set that features stubby and standard handles, short, medium and long magnetic bit holding shanks, 1/4" square drive shank and the SDM400A Master Bit Kit (pg. 195) to provide the greatest job flexibility in a ratcheting screwdriver set.

SGDMRC108



SGDMRC108 Red Handle Master Set. Includes:

SGDMRC1	Ratcheting Handle
SGDMRC4	Ratcheting Handle
SGDMRC1-10	Magnetic Shank/Bit Holder
SGDMRC4-40	Magnetic Shank/Bit Holder
SGDMRC4-80	Magnetic Shank/Bit Holder
SGDMRC4-TM4	1/4" Drive Shank
SDM400A	Master Bit Kit
PB146	Storage Case

SGDMRC108O Orange Handle Master Set. Same as SGDMRC108 Set except has SGDMRC1O and SGDMRC4O orange ratcheting handles.

SGDMRC108G Green Handle Master Set. Same as SGDMRC108 Set except has SGDMRC1G and SGDMRC4G green ratcheting handles.

Ratcheting Screwdrivers / Plastic Handles

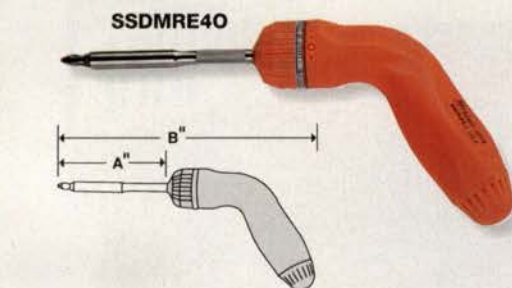
Standard Magnetic

			C	D	B
SDDMS10*	Stubby	Orange	7/8	2 5/8	SDM222ZB #2 PHILLIPS®
SSDMR1AO	Stubby	Orange	1 15/16	4 5/16	SDM221IRB #1 PHILLIPS® ACR®
SSDMR4BO	Standard	Orange	3 25/32	8 3/4	•
SSDMR8AO	Long	Orange	7 7/16	12 15/16	•
SSDMR1A	Stubby	Black	1 15/16	4 5/16	•
SSDMR4B	Standard	Black	3 25/32	8 3/4	•
SSDMR8A	Long	Black	7 7/16	12 15/16	•

*SDDMS10 is non-ratcheting.

Includes SDM211B (3/16") and SDM213B (9/32") Flat Tip bits, SDM221IRB (#1) and SDM222IRB (#2) PHILLIPS® bits plus SDMT15D (T15) TORX® bit.

RKRSSDMR4AC Service Kit. Order for servicing all the above drivers except SDDMS10.



Magnetic Pistol Grip

		A	B
SSDMRE4O	Standard	3 7/32	9 3/4
	Orange		

Pistol grip handle delivers major leverage and allows you to work closer to obstructions. Includes SDM211B (3/16") and SDM213B (9/32") Flat Tip bits, SDM221IRB (#1) and SDM222IRB (#2) PHILLIPS® bits plus SDMT15D (T15) TORX® bit.

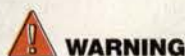
RKRSSDMR4AC Service Kit. Order for servicing SSDMRE4O.

Magnetic T-Handle

			A	B
SSDMRT1R	Stubby	Red	2	3 15/16
SSDMRT1O	Stubby	Orange	2	3 15/16
SSDMRT4R	Standard	Red	3 7/8	3 27/32
SSDMRT4O	Standard	Orange	3 7/8	3 27/32
SSDMRT8AO	Long T-Handle	Orange	8	10

Includes the following bit: SDM222IRB #2 PHILLIPS® ACR®

RKRSSDMR4AC Service Kit. Order for servicing all the above drivers.



- Do not use screwdrivers as prybars, chisels, or punches.
- Do not use power tools or accessories with impact drivers.
- Read additional safety precautions on pages M1 to M4.

Screwdrivers

Screwdriver Bit and Ratchet Sets

CRA180PB Screwdriver Bit and Ratchet Set

20 Tools include:

R810SA	1/4"-5/16" Ratchet
CRA.050A	.050" Hex Bit, 1/4" Hex Size
CRA2A	1/16" Hex Bit, 1/4" Hex Size
CRA2.5A	5/64" Hex Bit, 1/4" Hex Size
CRA3A	3/32" Hex Bit, 1/4" Hex Size
CRA3.5A	7/64" Hex Bit, 1/4" Hex Size
CRA4A	1/8" Hex Bit, 1/4" Hex Size
CRA4.5A	5/64" Hex Bit, 5/16" Hex Size
CRA5A	5/32" Hex Bit, 5/16" Hex Size
CRA6A	3/16" Hex Bit, 5/16" Hex Size
CRA7A	7/32" Hex Bit, 1/4" Hex Size

CRA8A	1/4" Hex Bit, 1/4" Hex Size
CRA10A	5/16" Hex Bit, 5/16" Hex Size
CRD8B	1/4" Square Bit, 1/4" Hex Size
CRP1D	#1 PHILLIPS® Bit, 1/4" Hex Size
CRP2D	#2 PHILLIPS® Bit, 1/4" Hex Size
CRS8B	Flat Tip Bit, .036 x 5/16", 1/4" Hex Size
CRS12B	Flat Tip Bit .051" x 13/32", 5/16" Hex Size
CRZ1A	#1 POZIDRIV® Bit, 1/4" Hex Size
CRZ2A	#2 POZIDRIV® Bit, 1/4" Hex Size
PB46A	Plastic Case



CRA180PB

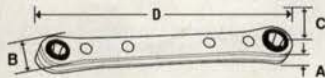
GRAM150PB



GRAM150PB Screwdriver Bit and Ratchet Set

15 Tools include:

R810SA	1/4"-5/16" Ratchet	GRAM7	7mm Hex Bit, 1/4" Hex Size
GRAM1.5	1.5mm Hex Bit, 1/4" Hex Size	GRAM8	8mm Hex Bit, 5/16" Hex Size
GRAM2	2mm Hex Bit, 1/4" Hex Size	CRD8B	1/4" Square Bit, 1/4" Hex Size
GRAM2.5	2.5mm Hex Bit, 1/4" Hex Size	CRP1D	#1 PHILLIPS® Bit, 1/4" Hex Size
GRAM3	3mm Hex Bit, 1/4" Hex Size	CRP2D	#2 PHILLIPS® Bit, 1/4" Hex Size
GRAM4	4mm Hex Bit, 5/16" Hex Size	CRS8B	Flat Tip Bit 1/4", 1/4" Hex Size
GRAM5	5mm Hex Bit, 5/16" Hex Size	CRS12B	Flat Tip Bit .051" x 13/32", 5/16" Hex Size
GRAM6	6mm Hex Bit, 1/4" Hex Size	PB46A	Plastic Case



TM936SET Magnetic Bit and Ratchet Set. Ideal for accessing fasteners in tight areas. Ratchet in set features magnetic retention for 1/4" hex bits. Includes SDM221B (3/16") and SDM2213B (9/32") Flat Tip bits, SDM2211RB (#1) and SDM2221RB (#2) PHILLIPS® ACR® bits plus SDMT15D (T15) TORX® bit. Set is packaged in vinyl pouch. U.S. Patents 4,934,220 and 6,125,722 apply. Use RKRTM936 Service Kit.

GTM936SET Magnetic Bit and Ratchet Set. Same as above except has industrial finish.

Ratchet Specifications:

				A	B	C	D
TM936SET	GTM936SET	30	12°	7/16	27/32	1 3/4	4 1/2

Limited Access Tool Set

2055IAB Limited Access Tool Set

Packaged in a KRA284B Metal Box. 32 Tools include.

TMA2E	1/4" Drive, 1/16" Hex Head Driver
TMA2.5E	1/4" Drive, 5/64" Hex Head Driver
TMA3E	1/4" Drive, 3/32" Hex Head Driver
TMA3.5E	1/4" Drive, 7/64" Hex Head Driver
TMA4E	1/4" Drive, 1/8" Hex Head Driver
TMA4.5E	1/4" Drive, 5/64" Hex Head Driver
034C	Offset Screwdriver, PHILLIPS® #3 and #4
020A	Offset Screwdriver .025 x 1/4" Flat Tip
030A	Offset Screwdriver .030 x 5/16" Flat Tip
040A	Offset Screwdriver .046 x 3/8" Flat Tip
TM1	Adaptor, 3/8" Female, 1/4" Male
A2A	Adaptor, 3/8" Female, 1/2" Male
FA10E	3/8" Drive, 5/16" Hex Driver
FABL5E	3/8" Drive, 5/32" Hex Ball Driver, Long
FABL6E	3/8" Drive, 3/16" Hex Ball Driver, Long

2055IAB



FABL7E	3/8" Drive, 7/32" Hex Ball Driver, Long
FABL8E	3/8" Drive, 1/4" Hex Ball Driver, Long
FC936	3/8" Drive, Compact Head Ratchet
FLF936	3/8" Drive, Sealed Ratchet
FU8A	3/8" Drive, Universal Joint
FXWK6	3/8" Drive, 6" Wobble Extension
FX61A	3/8" Drive, 8" Flexible Extension
FBS8	3/8" Drive, Socket for 1/4" Hex Bits
FBS9	3/8" Drive, Socket for 5/16" Hex Bits
SA12E	1/2" Drive, 3/8" Hex Driver

SA14E	1/2" Drive, 7/16" Hex Driver
SA16E	1/2" Drive, 1/2" Hex Driver
SA18E	1/2" Drive, 5/8" Hex Driver
GA261B	PHILLIPS® Tip Screw Starter
SS5A	.032 x 5/32" Flat Tip Screw Starter
CRA180PB	Ratchet and Screwdriver Bit Set
1-1003	Screw, 10-32 x 3/8"

Bit Sets

Screwdrivers

Power Bit Sets

Quickly and securely install bits, drivers and adaptors in electric drills or screwdrivers. Set contains 34 individual tools in plastic storage case. Quick change adaptors feature long length hex shank for faster loading, recessed black sleeve to prevent accidental release, nickel plating to resist corrosion and a slim chuck diameter that will pass through 11/16" (17.4mm) diameter holes. Power nutsetters feature rare-earth magnets for greater magnetic strength, shock-resistant tool steel for longer tool life, and a lobular design that drives hex head fasteners on their flats, not the corners, for faster installation, better transfer of power to the fastener and less drain on battery operated drivers.

QC34 Quick Change Bit Kit. Includes:

Quick Change Adaptors

SDMQC4 2.5" Long

SDMQC5 6.0" Long

Magnetic Nutsetters

MNS14 1/4" Hex, 1 7/8" long

MNS516 5/16" Hex, 1 7/8" long

MNS38 3/8" Hex, 1 7/8" long

1/4" Hex to Sq. Dr. Adaptors

GMB3042 1/4" sq. dr., 2" long

A3042 3/8" sq. dr., 2" long

YA93795 1/2" sq. dr., 2" long

POZIDRIV® Power Bits

SDM351B #1, 1 1/4" long

SDM352B #2, 1 1/4" long

SDM353B #3, 1 1/4" long

SDM552A #2, 3 1/2" long

SDM652A #2, 6" long

SDMQC5



MNS38



SDMQC4



YA93795



QC34



PHILLIPS® Power Bits

SDM321B #1, 1 1/4" long

SDM322B #2, 1 1/4" long

SDM323B #3, 1 1/4" long

SDM521A #1, 3 1/2" long

SDM522A #2, 3 1/2" long

SDM523A #3, 3 1/2" long

SDM621A #1, 6" long

SDM622A #2, 6" long

SDM623A #3, 6" long

TORX® Power Bits

SDMT308A T8, 1 1/4" long

SDMT309A T9, 1 1/4" long

SDMT310A T10, 1 1/4" long

SDMT515 T15, 3 1/2" long

SDMT520 T20, 3 1/2" long

SDMT525 T25, 3 1/2" long

SDMT530 T30, 3 1/2" long

SDMT615 T15, 6" long

SDMT620 T20, 6" long

SDMT625 T25, 6" long

SDMT627 T27, 6" long

SDMT635 T30, 6" long

1/4" Shank Bit Sets

SDM400A Master Bit Set. This 37-piece set includes 1/4" hex shank bits. Also included are SDM11 Magnetic Insert Bit Holder for quick hex bit changes when using with electric drill or screw gun, TMBS8A 1/4" Hex Magnetic Socket for use with 1/4" drive handles, and GMB3042 1/4" Power Hex-to-Square Adaptor—all conveniently stored in the PB90 Blow-Molded Plastic Case.

SDM400A



Flat Tip Bit:

	#	
SDM211B	—	.031" x .187"
SDM212B	—	.035" x .219"
SDM213B	—	.038" x .250"
SDM214C	—	.046" x .312"
SDM215C	—	.050" x .312"

PHILLIPS® ACR® Bit:

	#	
SDM221RB	+	#1
SDM222RB	+	#2
SDM223RB	+	#3

PHILLIPS® Bit:

	#	
SDM222CZ	+	#2

Hex Bit:

	#	
SDM2704D	—	1/16"
SDM2705D	—	5/64"
SDM2706D	—	3/32"
SDM2707D	—	7/64"
SDM2708D	—	1/8"
SDM2709D	—	9/64"
SDM2710D	—	5/32"
SDM2712D	—	3/16"
SDM2714D	—	7/32"
SDM2716D	—	1/4"

POZIDRIV® ACR®:

	#	
SDM251IRC	+	#1
SDM252IRC	+	#2
SDM253IRC	+	#3

TORX®:

	#	
SDMT8D	—	T8
SDMT9D	—	T9
SDMT10D	—	T10
SDMT15D	—	T15
SDMT20D	—	T20
SDMT25D	—	T25
SDMT27D	—	T27
SDMT30D	—	T30
SDMT40D	—	T40

SCRULOX®:

	#	
BTS0	—	#0
BTS1	—	#1
BTS2	—	#2
BTS3	—	#3

Screwdriver Bits and Accessories

TMC109



SDM11



SSDM10A



TMBS8A



CTFBS8A



FBS8



TMUBS8



Screwdriver Bit Holders

Quick-Change Coupler

TMC109 For use with any 1/4" drive handle. Spring-release shell retracts to accept 1/4" hex power-type bits. Ideal for production situations where positive bit retention is required.

Magnetic Insert Bit Holder, 1/4"

SDM11 For quick hex bit changes when used with electric drill or screw gun. Magnetic and lock ring bit retention. 2 7/8" long.

SDM12 Similar to SDM11 but features lock ring retention only. 1 1/8" long.

Pocket Box Bits

SSDM10A Pocket-sized storage system for SDM Series bits. Includes quick-change bit holder.

Magnetic Screwdriver Bit Sockets

These sockets can be used with the bits from the CRA180PB, CRAM150PB and CRT110PB Screwdriver Bit and Ratchets Sets as well as all standard 1/4" hex "SDM" Series screwdriver bits.


TMBS8A	1/4" hex opening, 1/4" drive.
GTMB8A	1/4" hex opening, 1/4" drive. Black industrial finish.
TMUBS8	1/4" hex opening, 1/4" drive.
FBSM8A	1/4" hex opening, 3/8" drive.
FBS8	1/4" hex opening, 3/8" drive.
FBS9	5/16" hex opening, 3/8" drive.
CTFBS8A	Low impact. 1/4" hex opening, 3/8" drive.
CTFBS9	Low impact. 5/16" hex opening, 3/8" drive.
CFSSB8	Insulating universal bit socket. 1/4" hex opening, 3/8" drive.





WARNING

- Do not use power tools or accessories with impact drivers.
- Read additional safety precautions on pages M1 to M4.

Screwdrivers 1/4" Hex Shank Bits

	#
Flat Tip Bit:	
SDM211B**	.031" x .187"
SDM212B**	.035" x .219"
SDM213B**	.038" x .250"
SDM214C**	.046" x .312"
SDM215C**	.050" x .312"
PHILLIPS®	
SDM221C	#1
SDM222ZB	#2
SDM222CZ*	#2
SDM223C	#3
Reed & Prince	
SDM231A	#2
Clutch A:	
SDM242	3/32"
SDM243	1/8"
SDM244	5/32"
SDM245	3/16"
SDM246	1/4"
SDM247	5/16"
Clutch G:	
SDM242G	3/32"
SDM243G	1/8"
SDM244G	5/32"
SDM245G	3/16"
SDM246G	1/4"


	#
Hex:	
SDM2704D**	1/16"
SDM2705D**	5/64"
SDM2706D**	3/32"
SDM2707D**	7/64"
SDM2708D**	1/8"
SDM2709D**	9/64"
SDM2710D**	5/32"
SDM2712D**	3/16"
SDM2714D**	7/32"
SDM2716D**	1/4"
SDM2720D	5/16"
SDM2724D	3/8"
Metric Hex:	
SDMM2702B	2mm
SDMM2702.5B	2.5mm
SDMM2703B	3mm
SDMM2704C	4mm
SDMM2705C	5mm
SDMM2706C	6mm
SDMM2708B	8mm
SDMM2710B	10mm
POZIDRIV®:	
SDM251C**	#1
SDM252C**	#2
SDM253C**	#3

	#
TORX®:	
SDMT6A	T6
SDMT7A	T7
SDMT8D**	T8
SDMT9D**	T9
SDMT10D**	T10
SDMT15D**	T15
SDMT20D**	T20
SDMT25D**	T25
SDMT27D**	T27
SDMT30D**	T30
SDMT40D**	T40
SCRUX®:	
BTS0**	#0
BTS1**	#1
BTS2**	#2
BTS3**	#3
TRI-WING:	
BTW0A	#0
BTW1A	#1
BTW2A	#2
BTW3A	#3
BTW4A	#4
BTW5A	#5
BTW6A	#6

*Small-profile, narrow-nose design
**Part of SDM400A Master Bit Set.


Tamper-Resistant TORX®

A hole in the end of each bit tip fits over a peg in the center of the TORX® tamper-resistant fasteners.

	#	A
SDMTR8	T8	1/4
SDMTR10	T10	1/4
SDMTR15	T15	1/4
SDMTR20	T20	1/4
SDMTR25	T25	1/4
SDMTR27	T27	1/4
SDMTR30	T30	1/4
SDMTR40	T40	1/4
SDMTR45	T45	5/16
SDMTR50	T50	5/16

PHILLIPS® ACR®


Anti-camout ribs on these PHILLIPS® bits bite into fasteners and help prevent camout.

	#
SDM221IRB**	#1
SDM222IRB**	#2
SDM223IRB**	#3

**Part of SDM400A Master Bit Set.


Wobble Bits

Give up to an 18° angle of "wobble."

	#
TORX® Wobble:	
SDMTW8A	T8
SDMTW9A	T9
SDMTW10A	T10
SDMTW15A	T15
SDMTW20A	T20
SDMTW25A	T25
SDMTW27A	T27
SDMTW30A	T30
SDMTW40A	T40
PHILLIPS® Wobble:	
SDMW221A	#1
SDMW222A	#2
SDMW223A	#3





POZIDRIV® ACR®

Anti-camout ribs on these POZIDRIV® bits bite into fasteners and help prevent camout.

	#
SDM251IRC**	#1
SDM252IRC**	#2
SDM253IRC**	#3

**Part of SDM400A Master Bit Set.

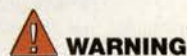
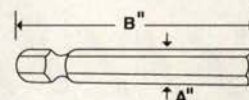
Power Bits Screwdrivers

		#	II	A	B
 Flat Tip	SDM311B	.026" x .122"	1/4	.187	1 15/16
	SDM312B	.028" x .134"	1/4	.187	1 15/16
	SDM313B	.032" x .154"	1/4	.187	1 15/16
	SDM314B	.034" x .187"	1/4	.187	1 15/16
	SDM315A	.036" x .215"	1/4	.234	1 15/16
	SDM316A	.038" x .250"	1/4	.234	1 15/16
	SDM317A	.042" x .275"	1/4	.234	1 15/16
	SDM318A	.046" x .312"	1/4	.234	1 15/16
	SDM319A	.050" x .360"	1/4	.234	1 15/16
	SDM411B	.026" x .122"	1/4	.234	3
	SDM412B	.028" x .134"	1/4	.187	3
	SDM413B	.032" x .154"	1/4	.187	3
	SDM414A	.034" x .187"	1/4	.187	3
	SDM415A	.036" x .215"	1/4	.250	3
	SDM416A	.038" x .250"	1/4	.234	3
	SDM417A	.042" x .275"	1/4	.234	3
	SDM418A	.046" x .312"	1/4	.234	3
	SDM419A	.050" x .360"	1/4	.234	3
	SDM511A	.026" x .122"	1/4	.187	3 1/2
	SDM512A	.028" x .134"	1/4	.187	3 1/2
 PHILLIPS®	SDM220A	#0	1/4	—	1
	SDM320A	#0	1/4	.125	1 15/16
	SDM321B	#1	1/4	.187	1 15/16
	SDM322B	#2	1/4	.234	1 15/16
	SDM323A	#3	1/4	.234	1 15/16
	SDM421B	#1	1/4	.187	2 3/4
	SDM422B	#2	1/4	.234	2 3/4
	SDM423B	#3	1/4	.234	2 3/4
	SDM521A	#1	1/4	.187	3 1/2
	SDM522A	#2	1/4	.234	3 1/2
	SDM523A	#3	1/4	.234	3 1/2
	SDM621A	#1	1/4	.187	6
	SDM622A	#2	1/4	.234	6
	SDM623A	#3	1/4	.234	6
	SDMA421	#1	5/16	.250	3
	SDMA422A	#2	5/16	.250	3
	SDMA423A	#3	5/16	.296	3
	SDMB422A	#2	7/16	.312	3
	SDMB423A	#3	7/16	.312	3
	SDMB424A	#4	7/16	.375	3
 PHILLIPS® ACR®	Installer Bits				
	SDM361IA	#1	1/4	.187	1 15/16
	SDM362IA	#2	1/4	.234	1 15/16
	SDM363IA	#3	1/4	.234	1 15/16
	Removal Bits				
	SDM361RA	#1	1/4	.187	1 15/16
	SDM362RA	#2	1/4	.234	1 15/16
	SDM363RA	#3	1/4	.234	1 15/16
 POZIDRIV®	SDM351B	#1	1/4	.187	1 15/16
	SDM352B	#2	1/4	.234	1 15/16
	SDM353B	#3	1/4	.234	1 15/16
	SDM451A	#1	1/4	.187	2 3/4
	SDM452A	#2	1/4	.234	2 3/4
	SDM453A	#3	1/4	.234	2 3/4
	SDM551A	#1	1/4	.187	3 1/2
	SDM552A	#2	1/4	.234	3 1/2
	SDM553A	#3	1/4	.234	3 1/2
	SDM651A	#1	1/4	.187	6
	SDM652A	#2	1/4	.234	6
	SDM653A	#3	1/4	.234	6

	#	II	A	B
SDMT307A	T7	1/4	.140	1 15/16
SDMT308A	T8	1/4	.140	1 15/16
SDMT309A	T9	1/4	.140	1 15/16
SDMT310A	T10	1/4	.140	1 15/16
SDMT315A	T15	1/4	.140	1 15/16
SDMT320A	T20	1/4	.203	1 15/16
SDMT325B	T25	1/4	.203	1 15/16
SDMT327A	T27	1/4	.203	1 15/16
SDMT330A	T30	1/4	.250	1 15/16
SDMT340A	T40	1/4	.250	1 15/16
SDMT407	T7	1/4	.140	2 3/4
SDMT408	T8	1/4	.140	2 3/4
SDMT409	T9	1/4	.140	2 3/4
SDMT410	T10	1/4	.140	2 3/4
SDMT415	T15	1/4	.140	2 3/4
SDMT420	T20	1/4	.203	2 3/4
SDMT425	T25	1/4	.203	2 3/4
SDMT427	T27	1/4	.203	2 3/4
SDMT430	T30	1/4	.250	2 3/4
SDMT440	T40	1/4	.250	2 3/4
SDMT507	T7	1/4	.140	3 1/2
SDMT508	T8	1/4	.140	3 1/2
SDMT509	T9	1/4	.140	3 1/2
SDMT510	T10	1/4	.140	3 1/2
SDMT515	T15	1/4	.140	3 1/2
SDMT520	T20	1/4	.203	3 1/2
SDMT525	T25	1/4	.203	3 1/2
SDMT527	T27	1/4	.203	3 1/2
SDMT530	T30	1/4	.250	3 1/2
SDMT540	T40	1/4	.250	3 1/2
SDMT607	T7	1/4	.140	6
SDMT608	T8	1/4	.140	6
SDMT609	T9	1/4	.140	6
SDMT610	T10	1/4	.156	6
SDMT615	T15	1/4	.156	6
SDMT620	T20	1/4	.187	6
SDMT625	T25	1/4	.234	6
SDMT627	T27	1/4	.250	6
SDMT630	T30	1/4	.250	6
SDMT640	T40	1/4	.250	6
SDMTA40	T40	5/16	.312	1 1/4
SDMTA45	T45	5/16	.312	1 1/4
SDMTA50	T50	5/16	.312	1 1/4
SDMTA55	T55	5/16	.312	1 1/4
SDM370A	1/16	1/4	.234	1 15/16
SDM3705	5/64	1/4	.234	1 15/16
SDM3706	3/32	1/4	.234	1 15/16
SDM3707	7/64	1/4	.234	1 15/16
SDM3708	1/8	1/4	.234	1 15/16
SDM3709	9/64	1/4	.234	1 15/16
SDM3710	5/32	1/4	.234	1 15/16
SDM3712	3/16	1/4	.234	1 15/16
SDM3714	7/32	1/4	.250	1 15/16
SDM3716	1/4	1/4	.250	1 15/16
SDMA4708	1/8	5/16	.234	3
SDMA4710	5/32	5/16	.234	3
SDMA4712	3/16	5/16	.234	3
SDMA4714	7/32	5/16	.281	3
SDMA4716	1/4	5/16	.281	3
SDMA4720	5/16	5/16	.312	3
SDMA4724	3/8	5/16	.312	3

TORX®

Hex

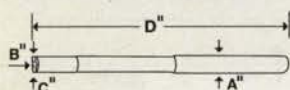


WARNING

- Do not use screwdrivers as prybars, chisels, or punches.
- Do not use power tools or accessories with impact drivers.
- Read additional safety precautions on pages M1 to M4.



Screwdrivers



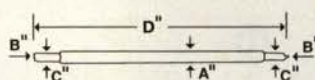
Aluminum Starters

Spring-loaded steel bits grip screw slot wall to withstand an 8-lb pull, yet release automatically when applied torque reaches a certain level.

	A	B	C	D
SS5A	5/16	Flat Tip	.032" x 3/32"	5
SSM3*	5/16	Flat Tip	.032" x 3/32"	2 1/2
SSM5A*	5/16	Flat Tip	.032" x 3/32"	5 1/4
SSM6A*	3/32	PHILLIPS®	#3	5 1/2
GA199A	3/32	Combination	.032" x 3/32", #2	5 7/8

*Aluminum handle with Magnet

Screw Starters

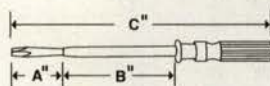


CSSC9

Composite (Insulating) Screw Starter

Rated shock resistant up to 1000V.

	A	B	C	D
CSSC9	3/32	Flat Tip/PHILLIPS®	.032" x 3/32", #2	9



YA355

Hand Style Screw Starters

	A	B	C
YA355	1/4	6	9 3/4
YA356	5/16	6	8 5/8

Recessed Screw and Nut Starter

SSR7. This combination starter has a round aluminum body with a knurled gripping area in the center. It's designed to accommodate the most popular sizes of recessed screws: TORX®, Socket Head, PHILLIPS®, etc., while the opposite end handles #3, #4, #6, #8, and #10 nuts. Overall length is 6 3/4".

SSR7



Hex Tip

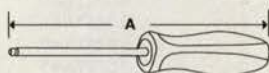
SDAB12A



Ball Hex

	A
.050	SDAB050A 6
1/16	SDAB4A 6 3/32
5/64	SDAB5A 6 15/64
3/32	SDAB6A 6 17/32
7/64	SDAB7A 6 1/4
1/8	SDAB8A 6 3/8
9/64	SDAB9A 7
5/32	SDAB10A 7 1/4
3/16	SDAB12A 7 11/16
7/32	SDAB14A 8 1/8
1/4	SDAB16A 8 9/16
5/16	SDAB20A 8 29/32
3/8	SDAB24A 9 5/32

SDAB113 Set. SDAB050A thru SDAB24A (13 pcs) (.050" to 3/8") in a plastic tray.



SDABM110



SDABM6



Ball Hex

mm	A
2	SDABM2 152.4
2.5	SDABM2.5 154.8
3	SDABM3 158.4
4	SDABM4 165.9
5	SDABM5 158.8
6	SDABM6 177.8
7	SDABM7 184.2
8	SDABM8 195.3
9	SDABM9 206.4
10	SDABM10 217.5

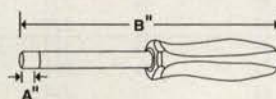
SDABM110 Set. SDABM2 thru SDABM10 (10 pcs) (2 to 10mm) in a plastic tray.

Nut Drivers

107CNDD



Snap-on® non-conductive composite nut drivers have the 6-point **FLANK DRIVE®** wrenching system for greater turning power with less fastener damage. Nut drivers feature narrow, non-conductive composite shanks for greater access and a full 5" bolt clearance depth. Screwdriver-style handles provide maximum comfort and control. Handles are color coded for easy size reference. Sizes are stamped on the handle crown for better visibility when wearing a tool pouch. U.S. Patent 6,427,563 applies.



Composite (Insulating) Nut Drivers

	A	B
3/16	CNDD106 5/32	7 5/8
7/32	CNDD107 5/32	7 5/8
1/4	CNDD108 5/32	7 5/8
5/16	CNDD110 5/32	7 5/8
3/8	CNDD112 11/32	8 3/8
7/16	CNDD114 11/32	8 17/32
1/2	CNDD116 11/32	9 1/16

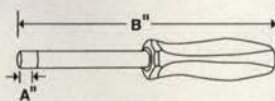
107CNDD Set. CNDD106 thru CNDD116 (7 pcs.) (3/16" to 1/2").

Nut Drivers Screwdrivers

Snap-on® nut drivers feature the 6-point **FLANK DRIVE®** wrenching system for greater power with less fastener damage, narrow tubular shanks for access to confined areas, and extra olt clearance. Handles for both the standard and the metric nut

drivers are available in two styles—the large, clear, square version and our popular contoured handle version that provides both grip and comfort. Both styles easily wipe clean and resist oils and solvents.

NDD1070A



NDDM1070



Ergonomic Handle Colored Handle

			A	B
1/4	NDD108AR	Red	9/64	6 21/32
5/32	NDD109AO	Orange	9/64	6 21/32
3/16	NDD110AY	Yellow	3/16	6 21/32
11/32	NDD111AG	Green	13/64	6 21/32
3/8	NDD112AB	Blue	9/32	7 13/32
7/16	NDD114ABR	Brown	5/16	7 13/32
1/2	NDD116AR	Red	23/64	7 13/32

NDD1070A Set. NDD108AR thru NDD116AR (7 pcs) (1/4" to 1/2") in a plastic tray.

NDD1070AK Set. NDD108AR thru NDD116AR (7 pcs) (1/4" to 1/2") in C0703 Kit Bag.

Ergonomic Handle Black Handle

		A	B
6	NDDM60	3.8	169.1
7	NDDM70	3.8	169.1
8	NDDM80	4.7	169.1
9	NDDM90	5.4	188.0
10	NDDM100	7.1	188.0
11	NDDM110	7.7	188.0
12	NDDM120	8.6	188.0

NDDM1070 Metric Set. NDDM60 thru NDDM120 (7 pcs) (6 to 12mm) in a plastic tray.

ND1300K



ND1070



NDM1090AK



Square Handle Clear yellow handle, colored shank.

			A	B
1/8	ND104	Red	3/32	6 5/8
5/32	ND105	Yellow	7/64	6 5/8
3/16	ND106	Black	1/8	6 5/8
7/32	ND107	Brown	1/8	6 5/8
1/4	ND108	Red	9/64	6 5/8
5/32	ND109	Orange	9/64	6 5/8
3/16	ND110	Yellow	3/16	6 5/8
11/32	ND111	Green	13/64	6 5/8
3/8	ND112	Blue	9/32	7 1/4
7/16	ND114	Brown	5/16	7 1/4
1/2	ND116	Red	23/64	7 1/4
5/8	ND118	Orange	27/64	7 1/4
3/4	ND120	Yellow	1/2	7 1/4

ND1300K Set. ND104 thru ND120 (13 pcs) (1/4" to 5/8") in C136 Kit Bag.

ND1070 Set. ND108 thru ND116 (7 pcs) (1/4" to 1/2") in a plastic tray.

ND1070K Set. ND108 thru ND116 (7 pcs) (1/4" to 1/2") in C77B Kit Bag.

Square Handle Clear yellow handle, black shank.

		A	B
4	NDM40A	2.4	168.3
5	NDM50A	3.2	168.3
5.5	NDM55A	3.8	168.3
7	NDM70A	3.8	168.3
8	NDM80A	4.7	168.3
10	NDM100A	7.1	184.2
11	NDM110A	7.7	184.2
12	NDM120A	8.6	184.2
13	NDM130A	9.2	184.2

NDM1090AK Metric Set. NDM40A thru NDM130A (9 pcs) (4 to 13mm) in C96 Kit Bag.



WARNING

- Do not use screwdrivers as prybars, chisels, or punches.
- Discard tools with broken insulation.
- Read additional safety precautions on pages M1 to M4.



PLIERS

There is no more perfect match than the two halves that make a pair of Snap-on® pliers.

That's because we make both pieces at the same time on the same machine so the mating surfaces are identical. The joint is smooth, the jaw tips line up exactly and the cutters are perfectly aligned. The jaws are precision-forged and the cutters are differentially heat treated. The teeth are milled like file teeth, sharp and strong, for outstanding grip even at the tips of the jaws. Overlapping cutters are made to shear the work with less effort, and stay sharp longer.

Our Stork® series needle nose and gripping pliers reach farther, grip harder and do more things than ever. And wait until you get your hands on the ergonomic pistol-grip model!

You'll find Snap-on® pliers handle just about everything, from electronic assembly to plumbing, from retaining rings to high voltage, from bending to brake work.

Another perfect match: Your hand and Snap-on® pliers. Nothing Even Comes Close™.

Pistol Grip Cutter

"Comfort Cradle" Grip helps prevent pliers from slipping out of hand.

Cushion Grip Handles

Compact Design reduces fatigue and improves accessibility

Leaf Spring

Ergonomic Handle reduces repetitive strain injuries

Induction Hardened Cutting Edge stays sharper longer and will cut with less effort

Tip Sizes
.038", .047",
.070", .090"
Tip Angles
0°, 45°, 90°

Forged Pliers on Average 58% Stronger Than Stamped*

Black Industrial Finish

Pivot Screw Converts From Internal to External

Convertible Snap Ring Pliers

Wide Cushion Grips

14 1/2" Length Provides Extra Reach

Non-slip Cushion Grips

Stork® Plus Pliers

Precision Riveted Flush Joints

Leaf Spring

Serrated Milled Gripping Teeth

Slim Tapered Jaws

Differential Teeth Design

Unique Thumb Button allows user to adjust jaw opening without losing control of pliers

Large Gripping Surface allows user to apply sustained maximum force

Long, Narrow Self-Locking Jaws

Soft Grip Handles provides non-slip gripping surface

Adjustable Pliers

Ergonomic Grip Design narrow handle opening even at largest jaw position

Combination / Slip-Joint



Feature 2-position slip-joints. Red vinyl grips.

	A	B
44ACP	4 1/2	15/64
45ACP	5 9/16	5/16
46ACP	6 7/16	23/64
47ACP	7 1/2	13/32
49ACP	9 1/4	1/2

PL300ACP



Pliers/Cutters Sets:

PL403A Combination Slip-Joint Pliers Set.

Includes 44ACP, 46ACP, and 47ACP (3 pcs) in a plastic tray.

PL300ACP Pliers/Cutters Set.

Includes 47ACP Pliers, 96BCP Needle Nose Pliers (pg. 202) and 87BCP Diagonal Cutters (pg. 204) (3 pcs) in a plastic tray.

Heavy Duty Combination

137ACP Combination Pliers (7 1/2").

Both gripping leverage and cutting action. 13/32" thick 2-position jaws. Countersunk stud permits cutting close. Industrial finish.

35ACP Combination Pliers (5").

Smaller version of 137ACP.



Special Purpose

HL138ACP High-Leverage Combination Pliers (7 7/8").

Requires only 1/4 the effort normally needed for cutting/gripping. 1 1/16" jaw opening. Industrial finish and red, vinyl-covered handles.



105AP Ignition Pliers (5").

3-position adjustable slip-joint. Ideal for carburetor, ignition, and radio work. Nickel-chrome finish with red, vinyl-covered handles.



PC2 Chain Link Pliers (8").

For quick removal or assembly of chain master link. Slip-joint design increases versatility, cushion grip handles give comfort and control. Recommended for use with #35 through #80 chain. Black industrial finish.



5ACP Midget Pliers (4 3/4").

Ideal for extremely small work. Serrated jaws. Industrial finish and red, vinyl-covered handles.



Pliers Grips

Pliers Grips

Use as replacement grips for models indicated or with some current and previous models sold without grips.

PG4 Black Vinyl Grips (set of 2). 5/16" inside diameter, 4 3/4" long. Fits 9P, 46CP, 47, 61CP, 85ACP, 90AP, 95ACP, 137CP, and 497ACP Pliers.

PG5 Black Vinyl Grips (set of 2). 3/8" inside diameter, 5" long. Fits 17CP, 49P, 87, 87ACP, and HL9ACP Pliers.



WARNING

• Read additional safety precautions on pages M1 to M4.



Pliers

Long, slim jaws and flush-riveted joints enable pliers to reach into recessed areas. Rounded jaw edges minimize nicks to wire when making loops or bends. Jaw tips are perfectly aligned and feature machined rather than stamped teeth for precise gripping with positive control. Designed for tremendous gripping strength, these

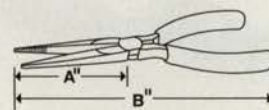
Needle Nose

pliers are ideally suited to electrical and electronic work, holding pins or small components. Models with a natural steel finish also include a tough, clear protective coating to help protect against corrosion.

Standard (Natural Finish)

Red vinyl grips

	A	B
94CCP	27/32	4 1/2
95BCP	1 11/16	6
96BCP	2 1/4	7 1/8



196BCP



97CCP



497CCP



697BCP



Special Purpose (Natural Finish) Red vinyl grips

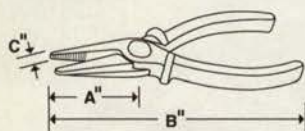
		A	B
196EP*	Needle Nose with Side Cutter	2 5/8	7 13/16
196BCP	Needle Nose with Side Cutter, 7 1/8"	2 1/4	7 1/8
97CCP	Needle Nose Pliers, 8"	3 3/16	8
497CCP	Needle Nose, 90° Angle Jaws	3 3/16	6 5/8
496BCP	Needle Nose, Angle Jaw	1 3/32	6 21/32
597CCP**	Needle Nose, Pin Gripping	3 3/16	7 15/16
61ACP***	Duck Bill (Industrial Finish)	1 5/16	7 3/4
697BCP	Needle Nose, 20° Offset Jaws	3 3/16	8

*Ergonomic Pistol Grip handle allows the user to apply more torque while reducing repetitive strain injuries.

**Jaws feature matched parallel and cross grooves.

***Jaw width is 15/32".

Composite (Insulating)



Non-conductive needle nose pliers feature all composite jaw and handle. Spring loaded joint (U.S. Patent 5,904,078) returns pliers to comfortable working position. Durable jaw teeth aid in gripping and twisting. Integral thumb guard for user protection. Each tool is individually tested to ensure protection up to 1000VAC and 1500VDC. Meets IEC60900 standards.

	A	B	C
C97CP	2	8 1/2	5/32



C97CP

Needle Nose Pliers Sets



PL903A



PL6711A



PL300ACP



102SHEP

PL903A Needle Nose Set. Includes 94CCP, 196BCP, and 97CCP (3 pcs) in a plastic tray.

PL6711A Needle Nose Set. Includes 96BCP, 97CCP, and 911BCP (pg. 203) (3 pcs) in a plastic tray.

PL300ACP Pliers/Cutters Set. Includes 47ACP Pliers (pg. 201), 96BCP Needle Nose Pliers and 87BCP Diagonal Cutters (pg. 204) (3 pcs) in a plastic tray.

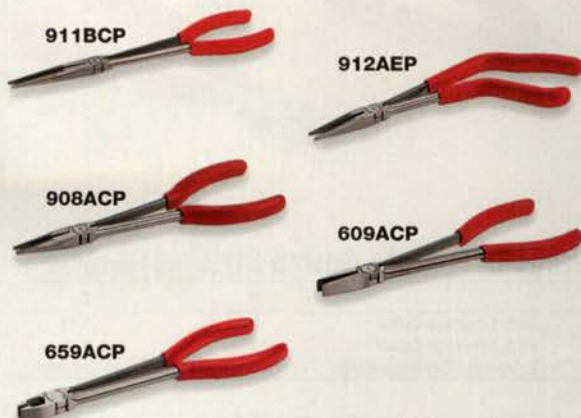
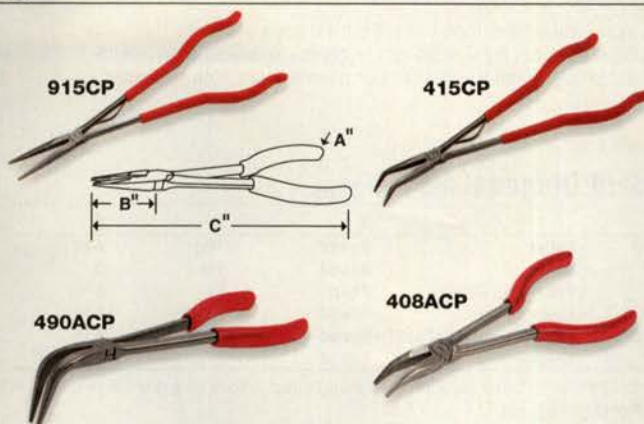
102SHEP Pliers/Cutters Set (Pistol Grip). Includes 196EP and 86EP (pg. 204) (2 pcs) in plastic tray.

STORK® Needle Nose

STORK® needle nose pliers to the rescue! The design of a STORK® pliers means reach and application advantage at every turn. Long, slim jaws and flush-riveted joints enable pliers to reach into recessed areas. Rounded jaw edges minimize nicks to wire when making loops or bends. Jaw tips are perfectly aligned and feature machined rather than stamped teeth for precise gripping with positive control. Designed for tremendous gripping strength, these pliers are ideally suited to electrical and electronic work, holding pins or small components. Models have a natural steel finish and a tough, clear coating to help protect against corrosion.



Long-Reach Pliers and Cutters Pliers



STORK® Needle Nose Pliers (Natural Finish)

		A	B	C
915CP	Long Handle	Red Vinyl	3 1/2	14 1/2
415CP	Long Handle / 35° Bent Nose	Red Foam	2 7/8	14 5/16
911BCP	Long Handle	Red Vinyl	3 3/16	11
912AEP	Pistol-Grip	Red Vinyl	2 1/8	10 5/8
490ACP*	90° Bent*	Red Vinyl	1 7/8	9 3/4
408ACP	35° Mini Bent	Red Vinyl	1 1/2	7 7/8
908ACP	Mini	Red Vinyl	1 5/8	8 1/8
659ACP**	Wide Bill with Side Cutters	Red Vinyl	1 3/16	8 3/4
609ACP*	Duck Bill*	Red Vinyl	1 3/8	9 1/4

*Jaw width is 3/8".

**Jaw width is 13/32".

102LHCP Needle Nose Set. Includes 415CP and 915CP (2 pcs) in vinyl pouch.

STORK® Gripping Pliers

Our new gripping pliers represent another unique problem solver in the much-demanded STORK® design. The pistol-grip handle makes access and reach a snap when working along a horizontal or vertical plane. You also get more

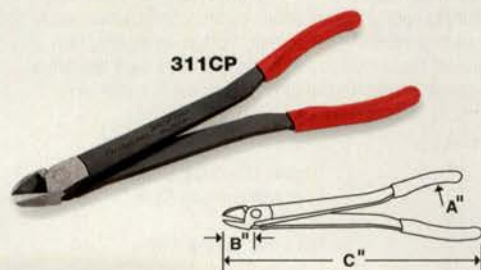
turning and pulling power with the pistol-grip handle design to speed jobs along. Machine jaw-serrated grooves provide a tough hold on the work. A spring mechanism keeps jaws in the open position.

STORK® Gripping Pliers (Natural Finish) Red vinyl grips

		B	C
612AEP	Pistol-Grip	1 3/8	9 3/4



STORK® Diagonal Cutters



STORK® Diagonal Cutters (Natural Finish)

Red vinyl grips

		B	C	Hard Wire Capacity, inches	Piano Wire Capacity, inches	Soft Wire Capacity, inches
311CP	Pistol-Grip Medium-Duty	1 5/16	11	—	—	1/4
312CP	Long Handle	1 1/8	11	5/64	1/8	1/4
808ACP	Mini	9/16	6 15/16	—	—	1/8

STORK® diagonal cutters feature one of the best ergonomic designs on the market to get cutting jobs done quickly, efficiently, and comfortably. Quality forged steel ensures a tool that will provide years of service. Differential heat treatment produces the strength and toughness in desired areas to withstand repeated tough cutting jobs. Induction-hardened, precision-sharpened, overlapped cutting edges produce a shearing cut (rather than pinching), stay sharp longer, and cut with less effort. Handles are designed to deliver the leverage needed to tackle demanding jobs. A spring mechanism keeps jaws in an open position.

WARNING

- Disconnect power source whenever possible.
- Do not use damaged tool.
- Be properly trained.
- Misuse, shock, or broken tool can cause injury.
- Do not use screwdrivers as prybars, chisels, or punches.
- Discard tools with broken insulation.
- Read additional safety precautions on pages M1 to M4.

Also see our full line of Electronic-Type Pliers and Cutters.

See Warranty Information on inside front cover.

Pliers Cutters

Quality forged steel ensures tools that will provide years of service. Differential heat treatment produces the strength and toughness in desired areas to withstand repeated tough cutting jobs. Induction hardened, precision sharpened,

overlapped cutting edges produce a shearing cut (rather than pinching), stay sharp longer, and cut with less effort. Handles are designed for comfort and to deliver the leverage needed to tackle demanding jobs.

Standard Diagonal Red vinyl grips

		A	B	C
184CCP	Cutter	Bowed	13/32	4 3/4
85BCP	Cutter	Bowed	9/16	5
86EP*	Pistol Grip Cutter	Pistol	3/4	6 5/16
86BCP	Cutter	Bowed	3/4	6 1/4
86BCPCT**	Cushion-Throat Cutter	Bowed	3/4	6 1/4
87BCP	Cutter	Bowed	15/16	7 5/16

*Ergonomic Pistol Grip handle allows the user to apply more torque while reducing repetitive strain injuries.

**Feature polyurethane filler bonded into head to prevent and/or retain flying wire bits.

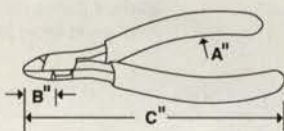


High Leverage Diagonal - Bowed Style Red vinyl grips

		B	C
387BCP	High-Leverage Cutter	3/4	7 3/8
388BCP*	High Leverage Cutter	1 3/16	7 3/4
HL9BCP††	Compound-Leverage Cutter	1 1/16†	10 3/16

††Industrial Finish

*This high-leverage diagonal cutter pulls cotter pins with ease. 1 1/8" jaw width. 7 3/4" long.



Special Purpose Red vinyl grips

		Finish	A	B	C
17ACP	End Cutter	Industrial	Flared	7/16‡	7 3/8
860DCP	Adjustable Plastic Cutter**	Natural	Bowed	7/8	6 5/16

‡Cutter width is 9/16".

**1/16" hex-head screw adjusts cutter depth for hard or soft plastic.

PC7 Cable Cutter. Industrial finish with red vinyl grips. Ideal for many wire rope, wire and cable cutting applications. Triangle cutting configuration easily slices through cables without crushing cable ends. Special carburizing heat treatment results in greater blade core strength and improved wear resistance. Thumb actuated lock allows one-hand operation. Spring keeps cutter jaws open and ready-to-work.

Cutting Capacities (inches):

Soft Wire Rope	.27	Copper/Aluminum Cable	.27
Hard Wire Rope	.20	Copper/Aluminum Rods	.20
Spring Wire Cable	.16	Iron Rods	.16
Hard Steel Cable	.12	Tempered Spring Wire	.10

Cutter Sets

PL803A Diagonal Cutter Set.

Includes 184CCP, 86BCP, and 87BCP (3 pcs) in a plastic tray.

PL300ACP Pliers/Cutters Set.

Includes 47ACP Pliers (pg. 201), 96BCP Needle Nose Pliers (pg. 202), and 87BCP Diagonal Cutters (pg. 201) (3 pcs) in a plastic tray.

102SHEP Pistol Grip Cutters/Needle Nose Set.

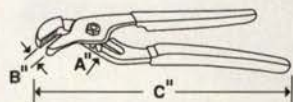
Includes 196EP (pg. 202) and 86EP (2 pcs) in a plastic tray.



Heavy Duty Bolt Cutters

Drop forged, alloy steel jaws are precision ground to provide a long lasting cutting edge. Lightweight, tubular steel handles deliver extra leverage for tough jobs. Comfortable, heavy duty grips resist slippage.

	Maximum Diameter, inches (Soft)	Maximum Diameter, inches (Medium)	Maximum Diameter, inches (Hard)	Length, inches	Replacement Blade
YA65113	7/16	1 1/32	5/16	30	YA65123
YA65112	1 1/32	5/16	9/32	25	YA65122
YA65111	9/32	1/4	7/32	18 1/2	YA65121

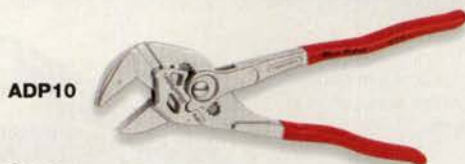


Tongue and Groove

These models include a special tongue-and-groove design that assures nonslip jaw action. The unique fastener system inhibits side-to-side jaw wobble for added strength and smoother operation.

		A	B	C
AWPP90A	Parrot Jaws	5	1 1/2	10 1/8
AWP45	Straight Serrated Jaws	3	1/2	4 3/4
AWP65	Straight Serrated Jaws	5	7/8	7
AWP100	Straight Serrated Jaws	7	2	10
AWP120	Straight Serrated Jaws	7	2 3/16	12 3/4
AWP160	Straight Serrated Jaws	8	3 13/16	16 3/4

AWP404 Set. Includes AWP45, AWP65, AWP120 and AWP160 (4 pcs) in a plastic tray.



Plier Wrenches

Plier wrenches feature smooth parallel jaws to avoid damage to soft fittings. Cam action allows fast, controlled ratcheting. Narrow design for tight access situations. Push button adjustment. Coated handles for comfort and control.

	A	B	C
ADP7	13	1 3/8	7
ADP10	11	1 3/4	10
ADP12	11	2 1/16	12

Lineman

57AHLF



Standard

57AHLF Lineman Pliers (7 3/8"). Machined cutter heads for perfectly matched blades. Heads are induction hardened. Additional gripper teeth behind the heads. Industrial finish and red vinyl covered handles.

59AHLF Lineman Pliers (9 1/4"). Longer version of 57AHLF.



59AHLFCT

Cushion Throat

59AHLFCT Cushion Throat Lineman Pliers (9 1/4"). Same as 57AHLF except these pliers include a special polyurethane filler molded into the cutter head to retain wire bits. Good for assembly line work.

Composite (Insulating)

Same quality as standard lineman pliers for performance and durability. Non-conductive handles are soft grip for comfort and control. Handles feature thumb guards, two position grip and tether hole. Each tool is individually tested to ensure protection up to 1000VAC and 1500VDC. Meets IEC60900 standards.

C59AHLF Non-Conductive (Insulating) Lineman Pliers (10"). Jaw length of 1 13/32".

C59AHLF



WARNING

- Disconnect power source whenever possible.
- Do not use damaged tool.
- Be properly trained.
- Misuse, shock, or broken tool can cause injury.
- Do not use screwdrivers as prybars, chisels, or punches.
- Discard tools with broken insulation.
- Read additional safety precautions on pages M1 to M4.



Standard

These models feature red, vinyl covered handles for a secure, comfortable grip. Jaw teeth are two directional, precision machined for a firm hold. Deeply recessed interlocking channels keep the jaws in alignment providing quick, smooth adjustment and safe operation.

		A	B	C
<i>Medium Models</i>				
90BP	Nickel-Chrome Finish	5	1 3/8	9 1/4
91ACP	Industrial Finish	5	1 3/8	9 1/4
<i>Large Model</i>				
CHN480	Nickel/Chrome Finish	11	5 1/2	20

AWPP90A



AWP45



AP10



Adjustable Joint

Unique thumb grip allows user to change jaw setting without releasing grip on tool. Self-locking jaw grips tightly at three points to securely hold pipes, hex and square objects. Handles feature large gripping surface for user to apply sustained, maximum force. Black industrial finish.

	A	B	C
AP7	9	1 1/2	7
AP10	11	1 3/4	10
AP12	13	2 1/16	12

Pliers Locking Pliers

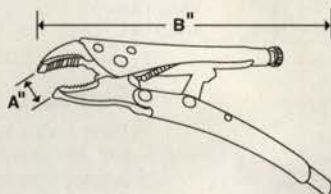
- E-coat provides extra resistance against corrosion and welding splatter.
- Quality cold-rolled steel ensures years of service.
- Drop forged jaws ensure a tough, durable tool.
- Smooth rounded edges allow comfortable handling and reduce risk of injury.
- Spring-loaded release lever permits quick "NO PINCH" release even when tool is firmly locked.

- Piano wire spring provides smooth jaw opening.
- Adjustment bolt features deep knurl to accommodate greasy hands.
- Locking nut allows setting for repetitive jobs.
- Drilled (not punched) holes in mobile jaw ensure maximum bearing with rivets for smooth action.
- Large diameter rivets add strength and durability.

VGP11107



Curved jaw grips provides a firm grip on round or irregular objects.



VGP11205



Heavy duty straight jaw pliers with deep jaws and reinforced precisely machined teeth.

	A	B
<i>Straight Jaw</i>		
VGP11205	1 5/32 (30)	5 (135)
VGP11207	1 5/8 (42)	7 (190)
VGP11210	2 7/16 (63)	10 (235)
<i>Curved Jaw</i>		
VGP11105	1 5/32 (30)	5 (135)
VGP11107	1 5/8 (42)	7 (190)
VGP11110	2 7/16 (63)	10 (235)
<i>Curved Jaw with Cutter</i>		
VGP12105	1 5/32 (30)	5 (135)
VGP12107	1 5/8 (42)	7 (190)
VGP12110	2 7/16 (63)	10 (235)
<i>Long Nose</i>		
VGP12706	2 1/8 (55)	6 (165)
VGP12710	2 3/4 (70)	10 (235)
VGP12712	5 1/16 (130)	12 (300)
<i>Large Jaw</i>		
VGP12212	3 15/16 (100)	12 (300)
<i>Omnium Grip</i>		
VGP13107	2 7/16 (63)	7 (190)
VGP13110	2 7/16 (63)	10 (235)
VGP13112	2 7/16 (63)	12 (300)
<i>Hose Clamp</i>		
VGP13910	1 5/32 (30)	10 (235)
<i>Pinch-off Tool</i>		
VGP12907	1 3/8 (35)	7 (190)
<i>Grip Holder</i>		
VGP1012	1 31/32 (50)	4 5/16 (110)

VGP404 Locking Pliers Set. Includes VGP12105, VGP12107 and VGP12110 Curved Jaw with cutter Pliers plus VGP12706 Long Nose Pliers (4 pcs).

VGP105 Locking Pliers Set. Includes VGP11110 and VGP11107 Curved Jaw, VGP11210 and VGP11205 Straight Jaw and VGP13910 Hose Clamp Pliers (5 pcs) in VGP1051 Kit Bag.

VGP12110



All-purpose pliers with curved jaws and wire cutter.

VGP12212



Multi-purpose tool with larger jaw capacity for general maintenance and screw-in oil filter removal.

VGP12706



Long reach jaws for access in confined spaces. Curved section allows pliers to hold rounded objects.

VGP12907



Acts as instant shut-off valve on tubing and hoses such as those used in refrigeration.

VGP13107



One-for-all locking pliers. Unique jaw design holds round, flat and large objects.

VGP13910



Long rounded jaws with smooth action "pinch-off" flexible hoses on brakes and radiators without risk of cutting.

VGP1012



Converts 10" and 12" VGP Locking Tools into a portable vise.



VGP105

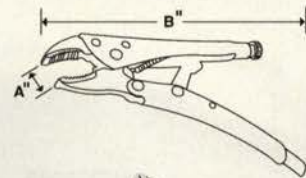
Locking Pliers / VISE-GRIP®

	A	B
VPSG5WRB	1 1/4 (29)	5 (125)
VPSG7WR	1 5/8 (41)	7 (175)
VPSG10WR	1 7/8 (48)	10 (250)
VPSG6LN	2 1/4 (57)	6 (150)
VPSG9LN	2 7/8 (73)	9 (225)

VPSG404 Set. Soft grip pliers feature molded ergonomic grips for greater comfort and control. Includes VPSG5WRB, VPSG7WR, and VPSG10WR Curved Jaw Pliers plus VPSG6LN Long Nose Pliers (4 pcs) in a vinyl kit bag.



VPSG6LN



VPSG404



Locking Clamps / Welding Clamps and Pliers



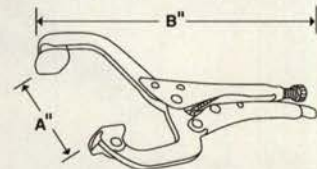
VGP12406

Quick and easy handling clamps for autobody and metal fabrication applications.



VGP22412

Swivel pads allow parallel clamping while preventing denting or gouging on delicate surfaces.



VGP14412



Lightweight aluminum jaw will not bend or distort body panels. Welding pellets will not adhere to jaw.

Locking Clamps

	A	B
<i>C-Clamps / Standard Tip</i>		
VGP12406	2 5/16 (60)	6 (165)
VGP12412	3 15/16 (100)	12 (300)
VGP12418	10 1/4 (260)	18 (460)
VGP12424	15 11/16 (400)	24 (630)
<i>C-Clamps / Swivel Tip</i>		
VGP22406	1 5/16 (50)	6 (165)
VGP22412	3 15/16 (100)	12 (300)
VGP22418	9 7/16 (240)	18 (460)
VGP22424	15 11/16 (400)	24 (630)
<i>C-Clamps / Long Reach</i>		
VGP13420	10 5/8 (270)	20 (500)
<i>C-Clamps / Aluminum Alloy</i>		
VGP14412	3 1/2 (90)	12 (300)
<i>U-Clamps</i>		
VGP12509	2 5/16 (60)	9 (200)
<i>Self-Leveling Jaws</i>		
VGP23312	3 15/16 (100)	12 (300)
<i>Sheet Metal</i>		
VGP12808	1 3/4 (45)	8 (200)
<i>Locking Pliers / Plugweld</i>		
VGP13709	1 9/16 (40)	9 (235)

VGP104 Autobody/Welding Locking Pliers Set. Includes VGP23312 Self-Leveling Jaws Pliers, VGP13709 Plugweld Pliers plus VGP14412 and VGP12406 C-Clamp Pliers (4 pcs) in VGP104 Kit Bag.



VGP12509

U-shaped jaws allow access and perfect visibility when welding.



VGP13420

Wide profile with perforated jaws allow clamping around large objects with uniform tension distribution.



VGP23312

Swivel pads and narrow jaw profile firmly grip tapered surfaces in areas where C-clamps cannot fit.



VGP12808

Wide jaws allow clamping, bending, forming and crimping of sheet metal without gripping effort.

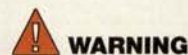


VGP104



VGP13709

Copper alloy knurled pad prevents burn-thru when plugwelding thin sheet metal.



WARNING • Read additional safety precautions on pages M1 to M4.



Pliers Retaining Ring



SRPC4700



SRPC3845



SRPC3890



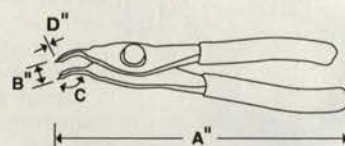
SRPC7090



SRPC105



SRPC112



Fixed Tip - Convertible

Unique dial feature on all "PRH" Series Snap Ring Pliers eliminates the need to take apart pliers when changing from internal to external.

	A	B	C	D
PRH12	5 3/4	1/8-1	18°	.038
PRH32	6	5/16-1 3/8	18°	.047
PRH34	7 1/2	7/16-2	18°	.070
PRH129	5 3/4	1/8-1	90°	.038
PRH329	5 7/8	5/16-1 3/8	90°	.047
PRH349	7 1/2	7/16-2	90°	.070

ASME/ANSI B107.19-1993

PRH404 Set. PRH12, PRH34, PRH129 and PRH349 (4 pcs) in a plastic tray.

PRH406 Set. PRH12, PRH32, PRH34, PRH129, PRH329 and PRH349 (6 pcs) in a plastic case.



PRH406



PRH34



PR21A

Fixed Tip - Convertible / Forged

	A	B	C	D
SRPC3800	6 7/16	1/8-1	0°	.038
SRPC4700	6 7/16	3/16-1 3/8	0°	.047
SRPC7000	7 7/16	7/16-2	0°	.070
SRPC9000A	8 3/4	1 1/2-3 1/2	0°	.090
SRPC3845	6 7/16	1/8-1	45°	.038
SRPC4745	6 7/16	3/16-1 3/8	45°	.047
SRPC7045	7 7/16	7/16-2	45°	.070
SRPC9045A	8 3/4	1 1/2-3 1/2	45°	.090
SRPC3890	6 7/16	1/8-1	90°	.038
SRPC4790	6 1/2	3/16-1 3/8	90°	.047
SRPC7090	7 1/2	7/16-2	90°	.070
SRPC9090A	8 3/4	1 1/2-3 1/2	90°	.090

ASME/ANSI B107.19-1993

SRPC112 Set. SRPC3800 thru SRPC9090A (12 pcs) in a plastic case.

SRPC105 Set. Includes SRPC3800, SRPC4700, SRPC7000, SRPC3890 and SRPC7090 (5 pcs) in a plastic tray.

Fixed Tip - Internal / External

		A	B	C	D	
PR21A	Internal	5 7/16	3/8-1 3/4	0°	.038	—
PR22A	External	5 7/8	1/8-1	0°	.038	—
PR23A	Internal	6 3/4	1 1/16-2	0°	.070	PRS21
PR24A	External	7	5/16-2	0°	.070	PRS21
PR25	Internal	9	1 13/16-3 1/2	0°	.090	PRS25
PR26	External	9 3/8	3/4-3 1/2	0°	.115	PRS25

ASME/ANSI B107.19-1993

Also see Transmission Snap-Ring Pliers on page E64.

▲ Read safety precautions on pages M1 to M4.

Retaining Ring



Interchangeable Tip

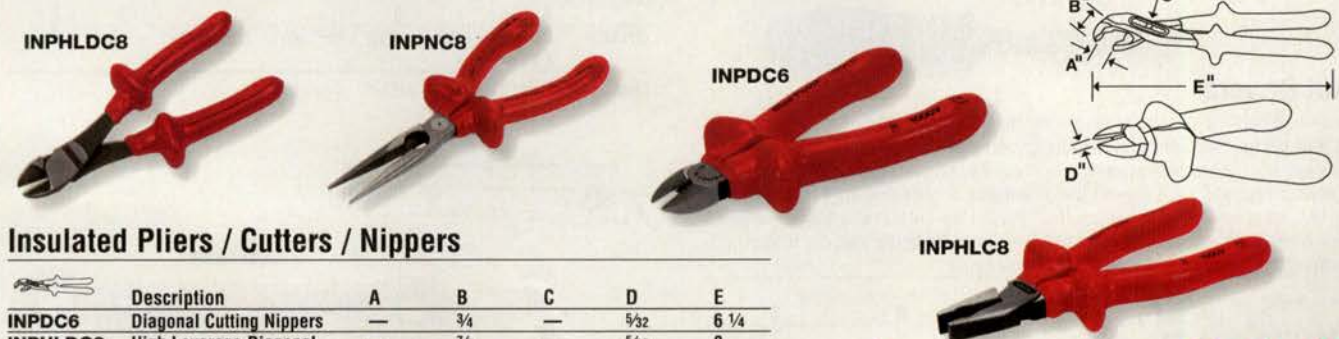
Internal Pliers	External Pliers	A	B	Tip Sizes Included	Tip Kit	Optional Tips
PR36 PR37*	PR38*	6 1/4	Internal 3/8-2 External 1/4-2	2 pair each .039" 90°, .047" 0°, .047" 45°, .070" 0° .023" 0°, .036" 0°, .036" 90°, .047" 0°, .047" 90° .036" 0°, .036" 90°, .047" 0°, .047" 90°, .070" 0°	PR5	—
PRC21 Convertible		6 1/4	1/8-1		PRC21-1	—
PRC36 Convertible		7 3/4	1/4-2		PRC36-1	—
PRC65 Convertible		10	Internal 1 13/16-4 External 1 1/2-4	2 pair each: .090" 15°, .108" 15°, .120" 15°	PRC65-1	—
PR50A PR51	PR52	9 1/2	Internal 2 7/16-4 External 1 1/2-3 11/32	PR502, .108" 15°, PR503, .108" 45° PR507, .120" 45°, PR508, .120" 90°	—	—
— PR7	PR8	15 11/16	Internal 3 1/16-6 1/4 External, 3 1/2-6 1/2	PR7-1, .120" 0°	—	PR7-2, .120" 45° PR7-3, .120" 90°
— PR54		29	6 1/2-10	PR54-1, .150" 0°	—	PR54-2, .150" 45° PR54-3, .150" 90°
	PR53	19	6 1/2-10	PR53-1, .170" 0°	—	PR53-2, .170" 45° PR53-3, .170" 90°
PRC87 Internal/External Retaining Ring Tool	—	7 1/2	3 1/2-7	PRC87-4, .120" 20°, PRC87-5, .150" 20°, PRC87-6, .180" 20°, PRC87-7, .120" 90°, PRC87-8, .150" 90°, PRC87-9, .180" 90°	PRC87-10 PRC87-11	— —

*PR37 Pliers does not include tips. PR5 Tip Kit required for usage.

Electrical / Electronic Service

Insulated

Our insulated hand tools undergo a stringent series of tests, including testing for dielectric strength. These insulated hand tools offer protection up to 1000VAC and 1500VDC. Blades are burnished high-alloy steel and the insulation coating exceeds the International Safety Standards (IEC60900). The rugged, wear-resistant insulation helps protect against accidental contact and shorting out of components of live electrical circuits. Keep in mind that live electrical circuits should always be switched off before performing any service. Tools conform to IEC60900 (International Electrical Commission) and have been tested to VDE0680/2. Spot checking of production and inventory is performed by the VDE Examining Board.



Insulated Pliers / Cutters / Nippers

Description	A	B	C	D	E
INPDC6 Diagonal Cutting Nippers	—	3/4	—	5/32	6 1/4
INPHLDC8 High Leverage Diagonal Cutting Nippers	—	7/8	—	5/32	8
INPNC8 Needle Nose Side Cutting Pliers	—	2 7/8	—	—	8
INPA10 Alligator Pliers	1 3/8	—	7	—	10
INPHLC8 Heavy-Duty Combination Pliers	—	1 3/8	—	1/2	8
INPHLC9 Heavy-Duty Combination Pliers	—	1 5/8	—	9/16	9



WARNING

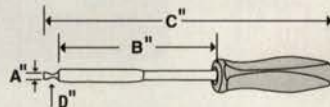
- Disconnect power source whenever possible.
- Do not use damaged tool.
- Be properly trained.
- Misuse, shock, or broken tool can cause injury.
- Do not use screwdrivers as prybars, chisels, or punches.
- Discard tools with broken insulation.
- Read additional safety precautions on pages M1 to M4.



Electrical / Electronic Service Composite (Insulating)

Snap-on® non-conductive composite tools feature:

- No conductive path to user.
- No insulation to puncture, tear or wear through.
- Strong as steel.
- Every tool is individually tested to ensure protection up to 1000VAC and 1500VDC.
- Only Snap-on® non-conductive tools are UL Classified assuring the customer compliance to IEC60900. This means UL inspects and audits to ensure complete compliance with IEC60900.
- Lifetime warranty for material and workmanship.



Composite tools have no conductive path

Cross
Sectional
Views



Insulated tools are coated steel and have a conductive metal path.

IHTS6



IHTP62

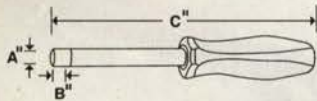


Flat Tip Screwdrivers

	A	B	C	D
<i>Flat Tip, Replaceable Bit</i>				
IHTS3	3/16	3 1/4	8 3/16	IHTS65
IHTS37	7/32	3 1/4	8 3/16	IHTS375
IHTS38	1/4	3 1/4	8 3/16	IHTS685
IHTS6	1/4	6	11	IHTS685
IHTS610	5/16	6	11	IHTS6105
IHTS9	5/16	9	14	IHTS6105
IHTS912	3/8	9	14	IHTS9125

IHT60K Insulating Screwdriver Set. Includes flat tip drivers IHTS3, IHTS6, and IHTS9 plus PHILLIPS® tip drivers IHTP31, IHTP62 and IHTP63 (6 pcs) (3/16" to 5/16" and #1 to #3) in CO612A Kit Bag.

CO612A Kit Bag. For IHT60K Insulating Screwdriver Set.



CNDD112



Nut Drivers

Snap-on® non-conductive composite nut drivers have the 6-point **FLANK DRIVE®** wrenching system for greater turning power with less fastener damage. Nut drivers feature narrow, non-conductive composite shanks for greater access and a full 5" bolt clearance depth. Screwdriver-style handles provide maximum comfort and control. Handles are color coded for easy size reference. Sizes are stamped on the handle crown for better visibility when wearing a tool pouch. U.S. Patent 6,427,563 applies.

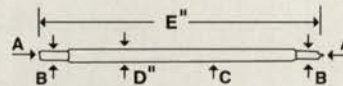
	A	B	C
CNDD106	5/32	5	7 5/8
CNDD107	7/32	5	7 5/8
CNDD108	1/4	5	7 5/8
CNDD110	5/16	5	7 5/8
CNDD112	11/32	5	8 3/8
CNDD114	7/16	5	8 17/32
CNDD116	1/2	5	9 1/16

107CNDD Nut Driver Set. CNDD106 thru CNDD116 (7 pcs) (3/16" to 1/2").

PHILLIPS® Tip Screwdrivers

	A	B	C	D
IHTP31	#1	3 1/4	8 3/16	IHTP315
IHTP62	#2	6	11	IHTP625
IHTP63	#3	6	11	IHTP635

IHT60K Insulating Screwdriver Set. Includes flat tip drivers IHTS3, IHTS6, and IHTS9 plus PHILLIPS® tip drivers IHTP31, IHTP62 and IHTP63 (6 pcs) (3/16" to 5/16" and #1 to #3) in CO612A Kit Bag.



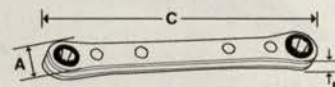
CSSC9



Screw Starters

	A	B	C	D	E
CSSC9	Flat/PHILLIPS® Combination	.032" x 3/32", #2	Composite*	5/32	9

*Rated shock resistant up to 1000V.



CRB1824



Ratcheting Box Wrenches

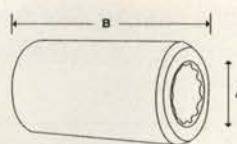
	Finish	A	B	C
CRB1824	Composite	1 9/16-1 13/16	5 5/8-5 7/8	9 1/16

Composite (Insulating) Electrical / Electronic Service

CFDS16B



IHT208K



CFDSM15A



12-Point Sockets 3/8" square drive

11	12	A	B
3/8	CFDS12B	1	1 3/4
7/16	CFDS14B	1	1 3/4
1/2	CFDS16B	1 3/16	2
9/16	CFDS18B	1 3/16	2
5/8	CFDS20B	1 3/16	2
11/16	CFDS22B	1 3/8	2 1/4
3/4	CFDS24B	1 3/8	2 1/4

IHT208K Insulating Ratchet and Socket Set. CFDS12B thru CFDS24B Sockets plus CFS949A Ratchet (3/8" to 3/4") (8 pcs) in CO800 Kit Bag.

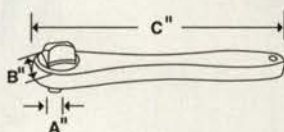
12-Point Sockets 3/8" square drive

mm	12	A	B
10	CFDSM10A	25.1	44.9
12	CFDSM12A	29.6	51.2
13	CFDSM13A	29.6	51.2
14	CFDSM14A	29.6	51.2
15	CFDSM15A	29.6	51.2
16	CFDSM16A	33.5	57.4
17	CFDSM17A	33.5	57.4
18	CFDSM18A	33.5	57.4
19	CFDSM19A	33.5	57.4

CFS949A



CFX6

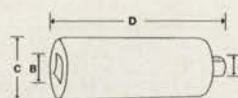


Ratchets and Extensions

	A	B	C
Ratchets			
CFS949A	3/8	—	8 3/4
CSS949A	1/2	—	8 3/4
Extensions			
CFX3	3/8	2	3
CFX6	3/8	2	6
CFX12	3/8	2	12
CSX5	1/2	1 5/16	5 21/32
CSX10	1/2	1 5/16	10 21/32

Adaptors

	A	B	C	D
CA1MF 1/2" Sq. Dr. Adaptor	3/8	1/2	1 5/16	3 25/32
CA2A 3/8" Sq. Dr. Adaptor	1/2	3/8	1	3 7/8



CA1MF



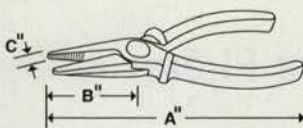
C97CP



Non-conductive needle nose pliers feature all composite jaw and handle. Spring loaded joint (U.S. Patent 5,904,078) returns pliers to comfortable working position. Durable jaw teeth aide in gripping and twisting. Integral thumb guard for user protection. Each tool is individually tested to ensure protection up to 1000VAC and 1500VDC. Meets IEC60900 standards.

CFSSB8 Insulating Universal Bit Socket.

For holding 1/4" bits. 3/8" square drive, 1" O.D., 1 3/4" long. U.S. Patents 5,970,826 and 6,126,882 apply.



CFSSB8

C59AHLF



Same quality as standard lineman pliers for performance and durability. Non-conductive handles are soft grip for comfort and control. Handles feature thumb guards, two position grip and tether hole. Each tool is individually tested to ensure protection up to 1000VAC and 1500VDC. Meets IEC60900 standards. Overall length of 10". Jaw length of 1 13/32".



WARNING

- Disconnect power source whenever possible.
- Do not use damaged tool.
- Be properly trained.
- Misuse, shock, or broken tool can cause injury.
- Do not use screwdrivers as prybars, chisels, or punches.
- Discard tool with broken insulation
- Read additional safety precautions on pages M1 to M4.



Pliers

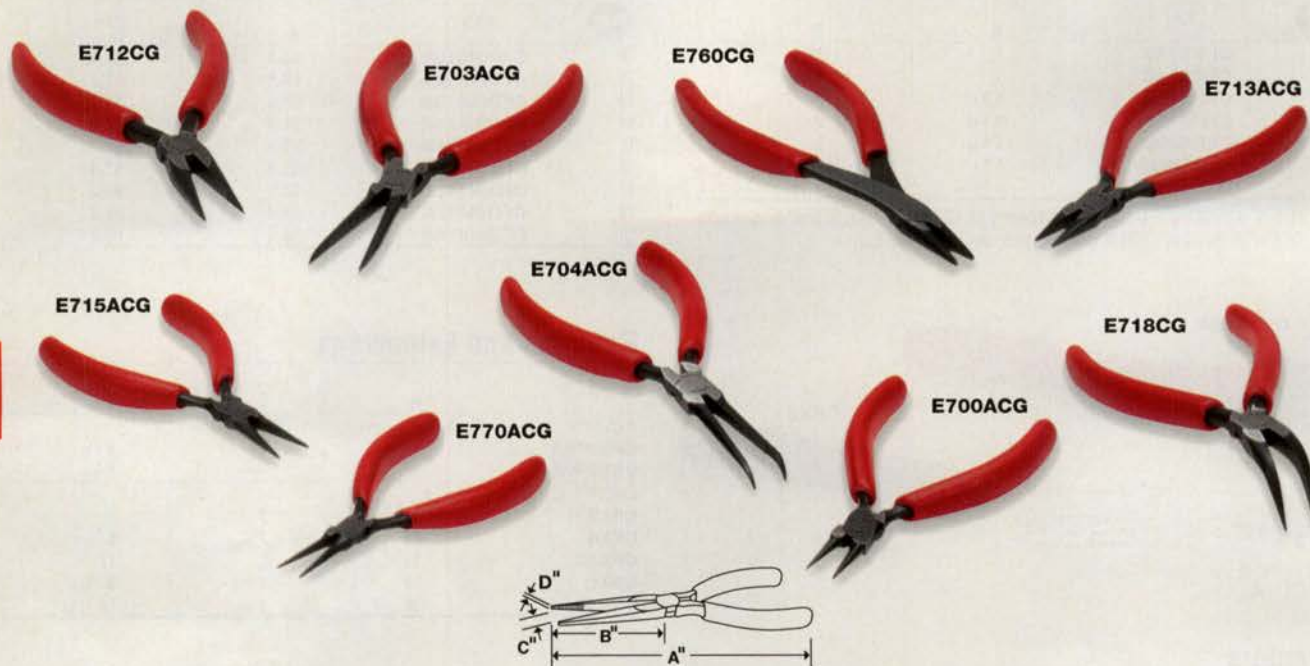
	A	B	C
C97CP Needle Nose Pliers	8 1/2	2	5/32
C59AHLF Lineman's Pliers	10	1 13/32	—

Electrical / Electronic Service Pliers

Snap-on® manufactured pliers with plastisol or cushion grip handles meet the electrostatic discharge (ESD) specifications in MIL-B-81705B, IS-5, and NFPA-56A.

Needle Nose Pliers

All models on this and the following page feature jaw opening springs. Cutter models have a small hole at the base of the blades to relieve pressure on the cutting edges. Innovative cushion grip vinyl handles result in a very comfortable, yet durable handle grip.



		A	B	C	D
	E712CG Serrated Jaw	6 1/8	1 11/16	2 1/4	1/16
	E703ACG Long Serrated Jaws	6 9/16	2 3/16	2	1/16
	E701ACG Long Non-Serrated Jaws	6 9/16	2 3/16	2	1/16
	E760CG Short Serrated Jaws	7 7/8	1 5/16	2 1/4	1/16
	E713ACG Short Serrated Jaws	4 5/8	7/8	2	1/16
	E708ACG Short Non-Serrated Jaws	4 5/8	7/8	2	1/16
	E715ACG Extra-Slim Serrated Jaws	5 1/8	1 3/16	2	1/16
	E721ACG Extra-Slim Non-Serrated Jaws	5 1/8	1 3/16	2	1/16

		A	B	C	D
	E770ACG Needle-Thin Serrated Jaws	5	1 1/8	1 7/8	1/32
	E704ACG Angled (45°) Serrated Jaws	6 5/8	2 1/4	2	1/16
	E702ACG Angled (45°) Non-Serrated Jaws	6 1/2	2 1/8	2	1/16
	E718CG Curved (70°) Serrated Jaws	5 9/16	1 1/8	2 1/4	1/16
	E700ACG Round Wire Looper Jaws Taper from 3/16" to 1/32"	4 3/4	7/8	1 7/8	1/32

Cutters should be used to cut non-ferrous wire only.

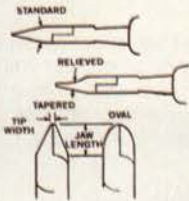
Gripper / Cutter Needle Nose Pliers



		A	B	C	Cutting Capacity
	E796CG Cutters are at base of jaw	7 11/16	2 1/4	2 1/4	AWG #9

Cutters should be used to cut non-ferrous wire only.

Cutters Electrical / Electronic Service



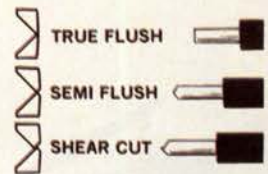
Head Shapes

Always select a cutter with the largest head that will meet your requirement. The oval head design has more material behind the cutting edges and gives the longest tool life.

True-Flush ground blades cut wire ends flat and allow protruding wire ends to be trimmed flush.

Semi-Flush ground blades cut slightly pointed wire ends and can be used where an exact flush cut is not required.

Shear-Cut ground blades (on standard cutters) are designed for general cutting with less hand pressure and extended blade life.



Tapered Head Cutters



	Cut	Head Style	Overall Cutting Capacity	Overall Length, inches	Cutting Edge Length, inches	Tip Width, inches
E709ACG	True-Flush	Tapered	AWG #17	4 7/16	7/16	1/16
E711ACG	Semi-Flush	Tapered	AWG #16	4 7/16	7/16	1/16
E707ACG	True-Flush	Tapered	AWG #17	4 3/8	7/16	1/16
E710ACG	True-Flush	Tapered	AWG #12	5 3/16	1 1/16	3/32
E749CG	True-Flush	Tapered with Long Ergonomic Handles	AWG #17	5 3/8	3/8	1/16
E719ACG	True-Flush	Tapered	AWG #17	6 3/8	7/16	1/16
E720ACG	Semi-Flush	Tapered	AWG #9	5 3/16	1 1/16	1/16

All Cutters should be used to cut non-ferrous wire only.

Oval Head Cutter



	Cut	Head Style	Overall Cutting Capacity	Overall Length, inches	Cutting Edge Length, inches	Tip Width, inches
E740ACG	True-Flush	Oval	AWG #17	4 3/16	3/8	1/16

All Cutters should be used to cut non-ferrous wire only.

End Cutters

	Cut	Head Style	Cutting Capacity	Overall Length, inches	Cutting Edge, inches	Tip Width, inches
E706CG	True-Flush	End Cut	AWG #19	6 1/4	1/4	1/16
E714CG	True-Flush	End Cut with 80° Offset	AWG #19	4 1/4	3/16	1/16

All Cutters should be used to cut non-ferrous wire only.



E699WRK Kit. Package of 10. Helps keep cut wire from flying. Sleeved end of retainer holds wire stub against the cutters jaw. The retainer also acts as a jaw-opening spring. The easily replaced tip is a Snap-on design exclusive and is covered under U.S. Patent 4,627,164. Designed for use on Snap-on® Electronic Cutters E707ACG, E711ACG, E719ACG, and E740ACG (plus earlier versions of these models).



WARNING

- Plastic coated handle does not protect from electrical shock.
- Read additional safety precautions on pages M1 to M4.





Wire Twisters

Cushion-throat wire twisters feature a polyurethane filler that is bonded into the tool's cutter head to help prevent flying wire bits. A special undercut design helps maintain cutting edges and increases tool durability. Ideal for assembly line applications.

WT105



WT105 Safety Wiring Kit.

Includes GA311C, WT11B, and WT13 Wire Twisters and three 1/4 lb. spools of safety wire in .020", .032", and .041" diameters. Packaged in a plastic carrying case.

WT105-2004



WT105-2516



Wire Twister / Cutters

Stock No.	Description/Features	Wire Capacity, inches	Overall Length, inches	Wire Retainer
GA311C	Wide range of applications.	.060	10 1/2	No
GA311CCT*	Spring-loaded twist rod.			Yes
WT11B		.041	8 1/2	No
WT11BCT*	Small size for use in tight quarters.			Yes
WT13	Long-reach wire twister has 3 pieces. Ideal for recessed areas. 19" overall reach.	.060	—	No
WTR1A	Reversible wire twisters let you perform right and left hand twist with the same tool. Spring return and control knob.	.041	8 3/4	No
WTR2A	Similar to WTR1A	.060	11	No
WTRW6	Similar to WTR1A with TigerWave® Jaw which captures and holds wire firmly.	.041	—	Yes
WTRW9	Similar to WTRW6	.060	11	Yes

*Cushion-throat version.

Soldering



R60B (60W) Soldering Station. Includes low voltage, temperature controlled soldering pencil that features a heat shield, a non-burnable silicone rubber cord, and a plug-in tip design. Transformer powered. 700°F. 1/16" screwdriver tip included. 120V, 60 Hz.

Optional 700°F Tips for R60B or RH60B.

Stock No.	Description	Tip Size, inches
R60AA7	Spade	1/16
R60B7	Screwdriver	3/32
R60BB7	Spade	3/32
R60C7	Screwdriver	1/8
R60CC7	Spade	1/8
R60D7	Screwdriver	3/16
R60DD7	Spade	3/16
R60E7	Screwdriver	15/64
R60F7	Conical Flat	1/32
R60H7	Screwdriver	1/32
R60K7	Long Screwdriver	3/64
R60L7	Long Screwdriver	15/64
R60M7	Long Screwdriver	1/8
R60O7	Long Screwdriver	1/32
R60P7	Conical	1/32
R60R7	Narrow Screwdriver	1/16

Guns

R450B Soldering Kit. Three different tip and element configurations provide maximum flexibility from delicate electronic soldering to larger, heavy duty applications in automotive maintenance. Includes 200W/450W, 100W/200W, and 25W/120W tips. Other features include a slim, single post design for ease of use in confined work areas, fast heat-up, built-in spotlight to illuminate the work area, roll of rosin core solder and polarized plug. UL Listed. 120V, 60 Hz.

RH450B Soldering Kit. Same as R450B except 220V, 50/60 Hz.

R460B Soldering Kit. Dual heat soldering gun heats up to a working temperature in less than 6 seconds while using less power to maintain constant tip temperature. Includes 200/350W, 100/200W and 25/100W looped-tip solder tips for maximum flexibility. Packed in plastic storage case with roll of rosin core solder. UL Listed. 120V, 60 Hz.

R490 Soldering Gun. Use in industry, repair shops and maintenance departments. Features a dual heat element that provides instant heat and maintains tip temperature at 1000°F or more for continuous work. Lightweight and balanced for less hand fatigue. No heavy transformer to move around. Built-in worklight illuminates work area. Tip and elements plug in and are easily replaced. 56" cord length. UL Listed. Includes plastic storage case. 120V, 60 Hz.

R490400 (150/400) Replacement Tip. 1/4" Replacement Tip for R490. 1,000° maximum tip temperature.

R490500 (330/550W) Optional Replacement Tip. 1/2" Optional Replacement Tip for R490. 1,070° maximum tip temperature.



▲ Read safety precautions on pages M1 to M4.

Soldering Electrical / Electronic Service

YAKS32



Butane Soldering Iron Kit (25 to 125 Watts)

YAKS32 Butane Soldering Iron Kit. Includes YAS32 Butane Soldering Iron, 7 tips, and sponge cup in plastic view-thru storage case. Optional tips are available.

Components for YAKS32:

Stock No.	Description	Size, inches (mm)
YAS32	Butane Soldering Iron	—
YAKS1-2	Single Flat Solder Tip	3/32" (2.4)
YAKS1-5	Double Flat Solder Tip	1/32" (1.0)
YAKS1-6	Double Flat Solder Tip	3/32" (2.4)
YAKS1-7	Double Flat Solder Tip	1/8" (3.2)
YAKS1-8	Double Flat Solder Tip	3/16" (4.8)
YAKS1-9	Hot Air Blower Tip	—
YAKS1-10	Hot Knife Tip	—
YAKS1-11	Plastic Case	—

YAS32 Butane Soldering Iron. Adjustable power range from 25 to 125 watts. Produces a tip temperature of 1,025°F and blow torch temperature of 2,372°F. Push button ignition starts a 40 second heat-up time. Fuel supply lasts up to 2 hours and is refillable in 20 seconds. Features superior self-igniting ignition system that is replaceable in the field.

Optional Tips for YAS32. Not included in YAKS32 Kit.

YAKS1-1 Single Face Solder Tip. 1/32" (1.0mm).

YAKS1-3 Single Face Solder Tip. 1/8" (3.2mm).

YAKS1-4 Single Face Solder Tip. 3/16" (4.8mm).

YAKS112 Hot Air Deflector Tip.

YAKS113 Hot Air Blower Deflector Tip.



Irons

R40B (40W) Industrial Soldering Kit. Solder iron is ideal for larger solder jobs like battery terminal cables or radiator repair. Threaded tips offer improved heat exchange compared to set-screw types. Application of a graphite lubricant to tip thread before heating will facilitate tip changing. Solder iron features a heat deflection shield, 4 3/4" long handle, 8 1/2" overall length and 8-foot power cord. Includes pointed, chisel and fine tips plus 1/2-ounce of lead-free rosin core solder and holder. UL Listed in US and Canada. 120V, 60 Hz.

R25A Industrial Soldering Kit. A lightweight 25-watt pencil style kit for fine soldering applications such as fine wiring and electronics. Threaded tips offer improved heat exchange compared to set-screw types. Application of a graphite lubricant to tip thread before heating will facilitate tip changing. Solder iron features a heat deflection shield, 4 3/4" long handle, 8 1/2" overall length and 8-foot power cord. Includes pointed, chisel and fine tips plus 1/2-ounce of lead-free rosin core solder and holder. UL Listed in US and Canada. 120V, 60 Hz.

R100B Rechargeable Soldering Iron. Solders up to 100 joints per charge. Tip heat of 700° is attainable in about 6 seconds. Comes with built-in charging unit and built-in worklight. Nickel-Cadmium battery recharges overnight. UL Listed. 120V, 60 Hz.

YAKS22



Butane Soldering Iron Kit (15 to 75 Watts)

YAKS22 Butane Soldering Iron Kit. Includes YAS22 Butane Soldering Iron, 7 tips, wire stand and sponge cup in plastic view-thru storage case. Optional tips are available.

Components for YAKS22:

Stock No.	Description	Size, inches (mm)
YAS22	Butane Soldering Iron	—
YAKS225	Double Flat Solder Tip	1/32" (1.0)
YAKS226	Double Flat Solder Tip	3/32" (2.4)
YAKS227	Double Flat Solder Tip	1/8" (3.2)
YAKS228	Double Flat Solder Tip	3/16" (4.8)
YAKS229	Hot Air Blower Tip	—
YAKS2210	Hot Knife Tip	—
YAKS2211	Hot Air Deflector	—
YAKS2214	Instruction Sheet	—
YAKS2215	Plastic Storage Case	—

YAS22 Butane Soldering Iron. Adjustable power range from 15 to 75 watts. Produces a tip temperature of 1,025°F and blow torch temperature of 2,372°F. Push-button ignition starts 40 second heat-up time. Refill in 20 seconds.

Optional tips for YAS22 Soldering Iron. Not included in YAKS22 Kit.

YAKS221 Single Flat Tip. 1/32" (1mm).

YAKS222 Single Flat Tip. 3/32" (2.4mm).

YAKS223 Single Flat Tip. 1/8" (3.2mm).

YAKS224 Single Flat Tip. 3/16" (4.8mm).

YAKS2212 Flame Tip.

YAKS2213 Hot Air Tip w/ Deflector.

YAKS300



Butane Soldering Iron Kit (10 to 60 Watts)

YAKS300 Butane Soldering Iron Kit. Includes YAS300 Butane Soldering Iron, 4 tips, wire stand and sponge cup in plastic storage case.

Components for YAS300:

Stock No.	Description	Size, inches (mm)
YAS300	Butane Soldering Iron	—
YAKS3001	Heater Element	—
YAKS3002	Fine Solder Tip	1/8" (3.2)
YAKS3003	Chisel Solder Tip	1/8" (3.2)
YAKS3004	Double Flat Solder Tip	3/16" (4.8)
YAKS3005	Hot Knife Tip	—
YAK10-8	Hot Iron Stand	—
YAK10-9	Metal Sponge Cup	—
YAK10-10	Plastic Case	—

YAS300 Butane Soldering Iron. Power range of 50 watts. Produces a tip temperature of 700°F (375°C). Replaceable flint ignition starts a 40 second heat-up time. Fuel supply lasts up to 90 minutes and is refillable in 20 seconds. Heating element, screw-in replacement tips and spark flint are easily replaced.



WARNING

- Do not store butane at temperatures above 120°F.
- Hold butane away from body and face while igniting.
- Read additional safety precautions on pages M1 to M4.



Electrical / Electronic Service

Miniature Butane Soldering Torches

TORCH2 Micro-Jet Torch. Piezo Electronic Ignition System. Instant 1300°C/2400°F Microflame. Powered by disposable cigarette lighter or refillable butane cell (included). 20 minutes of fuel life at continuous use. Pocket Size. Overall Dimensions: 4.5" x 1" x 2.8" (144.3 x 25.4 x 71.1mm). Weight: 2.2 oz. (0.06 kg.)

TORCH3 Torch. Ideal for workshop, garage or laboratory. Use for welding, soldering, car repair, plumbing and electronic repair applications. Piezo ignition delivers 1300°C/2400°F flame. 220 min. refillable butane gas tank. Adjustable air and gas flow valves. Brass body covered with a protective grip. Kill Switch. Removable base. Overall Dimensions (without base): 5.38" x 1.5" x 4.5" (136.5 x 38.1 x 101.6mm). Base Dimensions: 2.75" x 2.75" (69.8 x 69.8mm). Weight: 0.64 lb. (0.29 kg.)

TORCH4 Torch. Provides a powerful blow torch flame temperature of 1300°C/2400°F instantaneously upon ignition. Light weight ergonomic design and robust construction materials provides a blow torch for any user. Applications include light gauge silver soldering/brazing.

TORCH2



TORCH3



TORCH4



Butane Fuel Cans

BUTANE15CSA Triple filtered butane fuel for use with Snap-on® TORCH2, TORCH3 and TORCH4 Mini Torches, YAKS300 / YAKS32 / YAKS22 Soldering Irons and GLUEGUN2KT / GLUEGUN3KT Glue Guns. Universal filling tip can be used with most refillable butane products as well. Case of (24) 1.5 oz. cans.

Soldering Accessories

SOLDERAC25



SOLDERRC25



Solder (Lead-Free)

SOLDERAC25 Acid flux core solder for general purpose soldering applications. Use for tin repairs, sheet metal, automotive radiators, metal gutters, and non-electrical repairs. Melting temperature of 430° (221.1°C). Diameter of .062" (1.59mm). 1/4 lb. spool.

SOLDERAC100 Same as SOLDERAC25 except 1/2 lb. spool.

SOLDERRC25 Rosin flux core solder for electric and electronic uses. Used for soldering speaker wires, motors, appliances and other general wiring and electrical repairs. Melting temperature of 430° (221.1°C). Diameter of .062" (1.59mm). 1/4 lb. spool.

SOLDERRC100 Same as SOLDERRC25 except 1/2 lb. spool.

MPC7



MPS7



Miniature Tools / Pliers

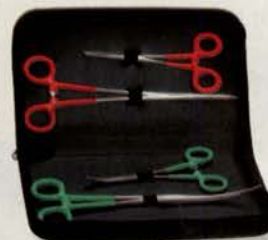
Mini-Pliers. Stainless steel. 3-notch ratcheting locking mechanisms lock onto small objects with varying degrees of pressure. 1/16" tips; 1 3/8" long jaws.

MPC7. Curved, serrated jaws with green handles. 7" long.

MPC10. Curved, serrated jaws with green handles. 10" long.

MPS7. Straight, serrated jaws with orange handles. 7" long.

MPS10. Straight, serrated jaws with orange handles. 10" long.



MPK4

MPK4 Mini-Pliers Set. MPC7 and MPC10 plus MPS7 and MPS10 (4 pcs) in a black zipper pouch.

CM6548



CM6548A Miniature Tool Set. Includes flat and cross tip screwdrivers, hex and TORX® drivers, sockets, open end wrenches, awl, and handles (29 pcs) in a vinyl tool roll.

YA477



YA476



Solder Suckers

YA477 Medium Solder Sucker. Low-static unit is designed for desoldering electrostatic discharge-sensitive components. When plunger is set and released a vacuum is created, resulting in a quick inrush of air that draws up solder.

YA477-1 Replacement Tip. For YA477.

YA476 Small Solder Sucker. Smaller version of YA477 above. Includes self-cleaning feature.

YA476-1 Replacement Tip. For YA476.

YA1650



TZK7



Tweezers

YA1650 Stainless Steel Tweezers with Magnifying Glass. Unique sharpening process provides a precision tip with superior gripping ability. 2 3/16" long.

TZK5 Solder Tweezers Kit. Includes five tweezers neatly arranged in a vinyl zipper pouch. All stainless steel construction.

Pointed tweezers with plain ends, 4 3/8" long

Self closing tweezers w/plain ends, 4 1/2" long

Self closing, weighted solder tweezers w/serrated blunt end, 7" long

Sharp point utility tweezers w/bent plain ends, 7" long

Sharp point utility tweezers w/plain ends, 7" long

TZK7 Solder Tweezers Kit. Includes seven tweezers neatly arranged in a black vinyl zipper pouch. All stainless steel construction.

Pointed tweezer, 4 3/8" long

Curved head utility tweezer, 6 3/4" long

Self closing, heat resistant tweezer, 6" long

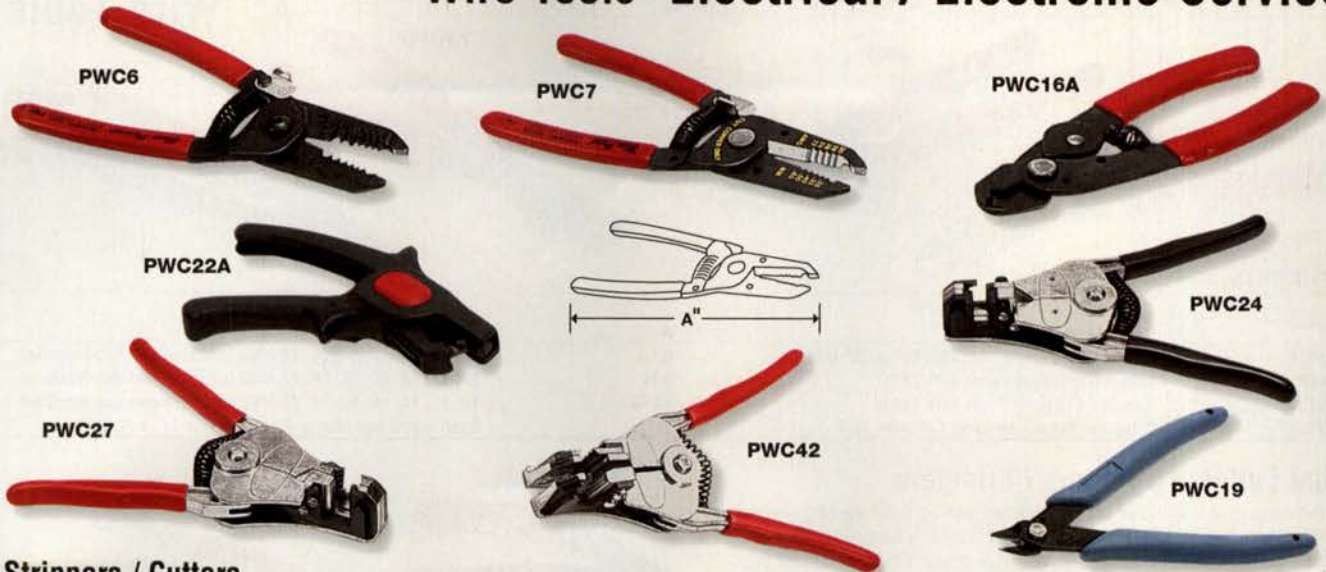
Sharp pointed utility tweezer, 7" long

Side locking tweezer, 6" long


Spade point tweezer, 4 3/8" long

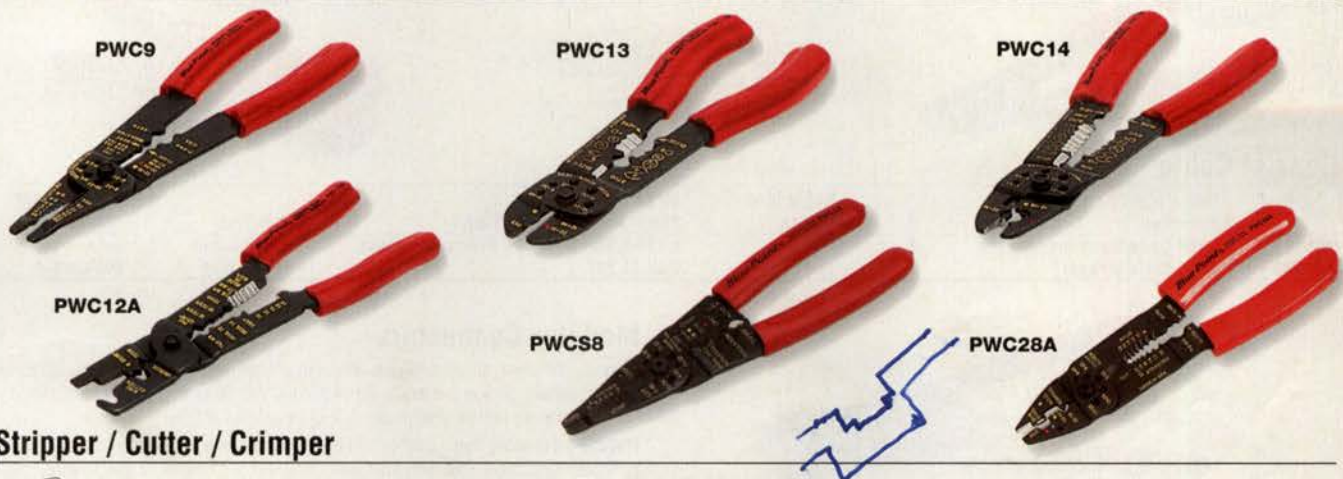
Weighted solder tweezer, 6" long

Wire Tools Electrical / Electronic Service




Strippers / Cutters

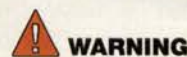
	Description	A	Strips AWG Sizes	Strips Metric Sizes, mm	Application	Replacement Blades
PWC6	Wire Stripper/Cutter/Pliers	6	10, 12, 14, 16, 18, 20	2.6, 2.0, 1.6, 1.3, 1.0, .80	Strips PVC, THHN, and THWN	—
PWC7	Wire Stripper/Cutter/Pliers	6	22, 24, 26, 28, 30	.65, .50, .40, .32, .25	Strips PVC, THHN, and THWN	—
PWC16A	Wire Cutter/Stripper	5	10-28	Adjustable	Strips PVC, THHN, and THWN	—
PWC22A	Automatic Wire Stripper with Cutter	7 1/4	12, 14, 16, 18, 20	—	Strips PVC, THHN, and THWN	PWC22-1
PWC24	Automatic Wire Stripper	6 1/4	16, 18, 20, 22, 24, 26	—	Strips Teflon®-Type E Wire	PWC24-1
PWC27	Automatic Wire Stripper	6 1/4	10, 12, 14, 16, 18, 20, 22	—	Strips PVC, THHN, and THWN	PWC27-7
PWC42	Automatic Wire Stripper	5 1/2	16, 18, 20, 22	1.5, 1.0, .5, .42	Colton-Coated PVC Wire, and Silicone-Coated Wire	PWC42-17
PWC19	Micro Shear Wire Cutters	5 1/8	Up to 20	Up to .80	—	—
PWC20	Micro Shear Wire Cutters with Wire Retainer	5 1/8	Up to 20	up to .80	—	—



Stripper / Cutter / Crimper

	Description	A	Strips AWG Sizes	Strips Metric Sizes, mm	Cuts Bolts Sizes
PWC12A	Wire Stripper/Cutter/Crimper	9 1/2	10, 12, 14, 16, 18	10-18 Insulated and Non-Insulated 7-8mm Ignition Terminals	—
PWC9	Wire Stripper/Cutter/Crimper/Bolt Cutter	9 1/2	10, 12, 14, 16, 18, 20, 22 (2.6, 2.0, 1.6, 1.3, 1.0, .80mm)	10-22 Insulated and Non-Insulated 7-8mm Ignition Terminals	6-32, 8-32, 10-32, (3.5, 4.0, 5mm)
PWCS8*	Wire Stripper/Cutter/Crimper/Bolt Cutter	8 1/4	10 to 22	10-22 Insulated and Non-Insulated 7-8mm Ignition Terminals	—
PWC13	Wire Stripper/Cutter/Crimper/Bolt Cutter	7 1/2	12, 14, 16	10-22 Insulated and Non-Insulated 7-8mm Ignition Terminals	4-40, 6-32, 8-32, 10-32, 10-24
PWC14	Wire Stripper/Cutter/Crimper/Bolt Cutter	8 3/4	10, 12, 14, 16, 18, 20, 22	10-22 Insulated and Non-Insulated 7-8mm Ignition Terminals	4-40, 6-32, 8-32, 10-32, 10-24
PWC28A	Wire Stripper/Cutter/Crimper/Bolt Cutter	8 1/4	10, 12, 14, 16, 18, 20, 22 Stranded, 8, 10, 12, 14, 16, 18 Solid	10-22 Non-Insulated Terminals and Crimp Sleeves	4-40, 6-32, 8-32, 10-32, 10-24

*Hardened pivot joint bushing for long life, cushion grip.



WARNING

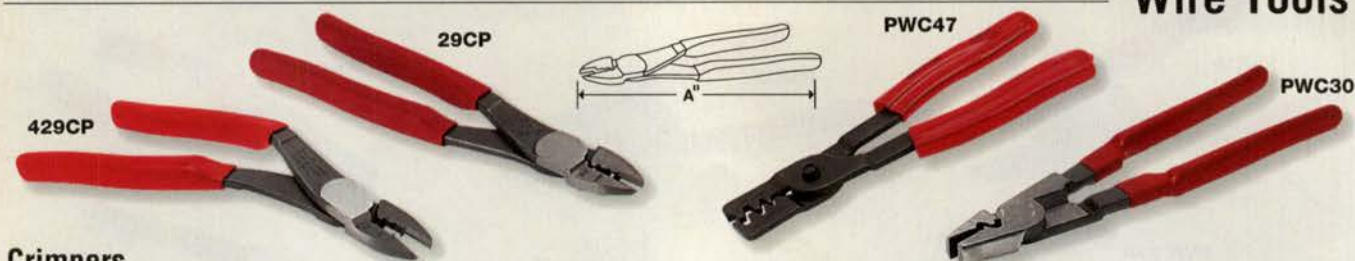
• Read additional safety precautions on pages M1 to M4.



See Warranty Information on inside front cover.

Electrical / Electronic Service

Wire Tools



Crimpers

	Description	A	Crimps
429CP	Terminal Crimping Pliers with Cutter/25° Offset	9 3/16	10, 12, 14, 16, 18, 20, 22 AWG Insulated and Non-Insulated.
29CP	Terminal Crimping Pliers with Cutter	9 3/8	10, 12, 14, 16, 18, 20, 22 AWG Insulated and Non-Insulated.
PWC30	Terminal Crimping Pliers with Cutter	10 1/4	10, 12, 14, 16, 18, 20, 22 AWG Insulated and Non-Insulated.
PWC47	Computer/Sensor Terminal Crimping Tool	8	Open barrel and Wether-Pac terminals 14 to 24 AWG

Mini Cutters / Strippers / Crimpers

Small, compact electronic wire tools designed with up-front working elements for easy cutting, crimping, and stripping applications in confined areas. Ergonomic handle design delivers maximum leverage. Sealed air pocket grips for comfort and control. Black industrial finish resists corrosion.

MET701 Mini Cutter. Hardened cutter blades stay sharp longer and cut insulation and wire with minimum effort. 5 3/8" (136.5mm) overall length.

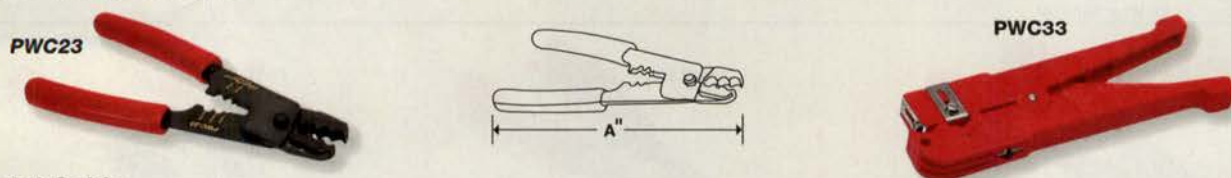
MET702 Mini Stripper. Precision ground stripper station cuts quickly and cleanly strips the outer insulation jacket on 10-22 AWG stranded and 18 AWG solid wire. 5 1/2" (139.7mm) overall length.

MET703 Mini Crimper. Crimper effortlessly crimps 10-22 AWG insulated and non-insulated connectors. 5 3/8" (136.5mm) overall length.

METK103 Mini Electronic Tools Set. MET701, MET702 and MET703 in vinyl storage pouch.



Wire and Cable



Coaxial Cable

	Description	A	Cable Size, inches	Strips Metric Sizes, mm	Crimps	Cable Type	Replacement Blades
PWC23	Coaxial Cable Stripper/Crimp Tool	8	3/16-9/16	3.175-5.556	F Series Connectors	RG59 and RG6	—
PWC33	Coaxial Cable Stripper	7	1/4-9/16	6.35-14.287		RG6 and RG8	PWC33-1



Miscellaneous

PWC39 Cable Slitter. Slits and removes insulation on single or multiple conductor cables up to 1.25" OD. Adjustable blade allows for varying insulation thickness up to .187". Lightweight, fiberglass-reinforced nylon body. Extra blade in handle. 5 1/4" long.

PWC39-1 Replacement Blade. For PWC39.

PWC52A Connector Pliers. For gripping round and irregularly shaped objects such as cannon plugs or plated pipe. Replaceable, non-marring vinyl jaw inserts (PWC52A-1, set of 2). Replaceable hinge bolt (PWC52A-2). Range is 3/4" to 2 1/2". 9 3/4" long.

PWC52A1 Vinyl Jaw Inserts. For PWC52A (set of two).

PWC52A2 Replaceable Hinge Bolt. For PWC52A.

PWC80A Cable Cutter. For cutting battery cables and other soft metal cables. Has red, vinyl-covered handles. 7 1/2" long.

Modular Connectors

For easy, efficient, single-squeeze crimping of modular connectors. Both primary and secondary crimps are made simultaneously to factory specifications. Has a comfortable ergonomic design and full-cycle ratchet action.

PWC34 Crimping Tool. Double compound action with ratchet control for almost effortless operation. Use with insulated connectors on 10 to 22 gauge wire.



POWER TOOLS



FAR7200 3/8" Air Ratchet



IM3100 3/8" Impact Wrench



IM6500HP 1/2" Impact Wrench



PH3050 Heavy Duty Air Hammer

Power. Ergonomics. Performance. Safety. These are the critical features designed into every Snap-on® power tool. And Snap-on® power tools deliver like no other because we engineer and build Snap-on® brand tools in our own facilities. We control the design and production to assure your investment in performance, balance and feel.

The Snap-on® power tools on the following pages are the most complete line we have ever offered — there is a power tool for virtually every need.

Be sure to consider the Blue Point® series as well. They represent a unique opportunity to purchase advanced power tools at great value.



Power Tools, Air 1" Drive Impact Wrenches

- Aluminum Housings—lightweight to help reduce fatigue and durable for long, reliable service.
- Rotary Action Air Motors—ball bearing mounted for balance, speed, and power.
- Variable Speed Triggers—adjust to meet your speed requirements.

- Adjustable Air Regulators—5 position regulator for versatility.
- Removable Brass Filters—screen out dirt that can clog and damage the impact mechanism.
- EU/CE—DE, ES, FR, IT, NL, UK - all models.

AT1300A
1" Drive Impact Wrench



AT1250A
1" Drive Impact Wrench



1" Drive Air Impact Wrenches

Specifications	AT1300A	AT1300AL	AT1250A	AT1250AL	AT1125E	AT1125EL
Square Drive Size, inches	1	1	1	1	1	1
Recommended Air Pressure, PSIG (kPa)	90 (620)	90 (620)	90 (620)	90 (620)	90 (620)	90 (620)
Air Consumption, Free Speed, CFM (SCFM) [l/min.]	8.3 (60) [235]	8.3 (60) [235]	8.3 (60) [235]	8.3 (60) [235]	9 (65) [254.9]	9 (65) [254.9]
Air Consumption, Working, CFM (SCFM) [l/min.]	5.3 (38) [150.1]	5.3 (38) [150.1]	5.3 (38) [150.1]	5.3 (38) [150.1]	6.1 (44) [172.7]	6.1 (44) [172.7]
Free Speed, Forward, RPM	4000	3800	4000	3800	4000	4000
Free Speed, Reverse, RPM	4000	4000	4000	4000	4000	4000
Sound Level, Free Speed, dBa	92	92	92	92	97	97
Sound Level, Working, dBa	103	103	103	103	108	108
Blows per Minute	505	505	500	500	760	760
Torque Range, ft. lb. (N•m)	600-1400 (813-1898)	500-1300 (678-1762)	600-1400 (813-1898)	500-1300 (678-1762)	500-1,200 (678-1,627)	500-1,200 (678-1,627)
Maximum Torque, ft. lb. (N•m)	3,000 (4,067)	2,700 (3,660)	2800 (3,796)	2500 (3,390)	1,500 (2,034)	1,500 (2,034)
Air Inlet Thread Size	½"-14 NPT	½"-14 NPT	½"-14 NPT	½"-14 NPT	½"-14 NPT	½"-14 NPT
Recommended Hose Size, inches (mm)	½ (13) ID min.	½ (13) ID min.	½ (13) ID min.	½ (13) ID min.	¾ (13) ID min.	¾ (13) ID min.
Overall Length, inches (mm)	21 (535)	21 (535)	11.8 (302)	16.8 (429)	14.4 (366)	14.4 (366)
Height, inches (mm)	6.8 (172)	6.8 (172)	10.6 (270)	10.6 (270)	6.3 (160)	6.3 (160)
Width, inches (mm)	4.33 (110)	4.33 (110)	4.37 (111)	4.37 (111)	3.81 (97)	3.81 (97)
Weight, lbs. (kg)	25.6 (11.6)	28 (12.7)	26 (11.8)	26.1 (11.9)	16.75 (7.6)	16.8 (7.6)

AT1125E
1" Drive Impact Wrench



AT1125EL
1" Drive Long Anvil Impact Wrench



3/4" Drive Impact Wrenches Power Tools, Air

- Aluminum Housings—lightweight to help reduce fatigue and durable for long, reliable service.
- Rotary Action Air Motors—ball bearing mounted for balance, speed, and power.
- Variable Speed Triggers—adjust to meet your speed requirements.

- Adjustable Air Regulators—5 position regulator for versatility.
- Removable Brass Filters—screen out dirt that can clog and damage the impact mechanism.
- EU/CE—DE, ES, FR, IT, NL, UK - all models.

IM75
3/4" Drive High Output
Impact Wrench



IM75 Features:

- Contoured Variable Speed Trigger prevents slippage and eliminates pinch points.
- Rear Mounted 5-Position Regulator.
- Hole-Through Pin and Ring Anvil for maximum socket retention when using larger sockets.
- Muffled Bottom Exhaust provides low dBA levels and directs exhaust away from user.
- Balanced Twin Hammers deliver more power.
- Made in USA.

AT775
3/4" Drive Heavy-Duty
Impact Wrench



AT126
3/4" Drive Impact Wrench



AT775L
3/4" Drive Long Anvil
Impact Wrench



AT126 Features:

- Jumbo single-hammer mechanism for greater power.
- Grease lubrication system prolongs tool life.
- Handle diffused exhaust moves away from user.

3/4" Drive Air Impact Wrenches

Specifications	IM75	AT126	AT775	AT775L
Square Drive Size, inches	3/4	3/4	3/4	3/4
Recommended Air Pressure, PSIG (kPa)	90 (620)	90 (620)	90 (620)	90 (620)
Air Consumption, Free Speed, CFM (SCFM) [l/min.]	8.6 (61) [243.5]	6.7 (48) [189.7]	5.8 (41) [164.2]	5.8 (41) [164.2]
Air Consumption, Working, CFM (SCFM) [l/min.]	6.9 (49) [195.4]	4.5 (28) [127.4]	3.9 (28) [110.4]	3.9 (28) [110.4]
Air Consumption, Average, CFM (SCFM) [l/min.]	—	5.3 (38) [150.1]	—	—
Free Speed, Forward, RPM	6000	5000	4500	4500
Free Speed, Reverse, RPM	6000	5500	5000	5000
Sound Level, Free Speed, dBA	103	96.3	92	92
Sound Level, Working, dBA	—	117.2	102	102
Blows per Minute	750	1000	975	975
Torque Range, ft. lb. (N•m)	150-700 (203-949)	100-1100 (135.6-1491.6)	300-800 (407-1085)	300-780 (407-1058)
Maximum Torque, ft. lb. (N•m)	1150 (1559)	1100 (1491.6)	1200 (1626)	1200 (1627)
Air Inlet Thread Size	3/8"-18 NPT	3/8"-18 NPT	3/8"-18 NPT	3/8"-18 NPT
Recommended Hose Size, inches (mm)	3/8 (10) ID min.	3/8 (10) I.D. min.	3/8 (10) I.D. min.	3/8 (10) ID min.
Overall Length, inches (mm)	9.1 (230)	8.42 (213.9)	10.2 (259)	16.2 (411)
Height, inches (mm)	9.1 (230)	9 (228.6)	9.4 (240)	9.4 (240)
Width, inches (mm)	3.5 (89)	3.75 (95.25)	3.34 (85)	3.34 (85)
Weight, (lbs.) (kg)	13.7 (6.22)	12.32 (5.59)	12.5 (5.67)	12.5 (5.67)
Vinyl Boot	YA770	—	YA979	YA979



WARNING

- Use only impact sockets and accessories.
- Read additional safety precautions on pages M1 to M4.



Power Tools, Air 1/2" Drive Impact Wrenches

- Aluminum Housings—lightweight to help reduce fatigue and durable for long, reliable service.
- Rotary Action Air Motors—ball bearing mounted for balance, speed, and power.
- Variable Speed Triggers—adjust to meet your speed requirements.

- Adjustable Air Regulators—5 position regulator for versatility.
- Removable Brass Filters—screen out dirt that can clog and damage the impact mechanism.
- EU/CE—DE, ES, FR, IT, NL, UK - all models.

IM6500HP
1/2" Drive Impact Wrench



IM6500HP Features:

- 8-vane air motor provides increased low end pressure output torque.
- Beefed up muffler by-pass detent and valve spring handle higher performance.
- Patented air dam directs exhaust away from the work when muffler by-pass is open.

Patented Cushion Grip

- Field replaceable.
- Ergonomically designed using anthropometric data for the best hand fit.
- Provides vibration and thermal isolation to help prevent operator fatigue.
- Ribbed for positive tool control.

Cushion Grip Trigger

- Rounded comfort corners.
- No pinch points.
- "Soft Touch" featherability.
- Patented tip valve design for greater control.

Patented Power Boost Muffler Bypass System

- Valve allows exhaust to be vented through the handle or above the trigger for maximum performance.
- New detent maintains selected operation.
- Quiet operation in closed mode.
- Great low pressure performance.
- Made in the USA.

IMC500 Features:

- Patented power boost muffler by-pass valve delivers an additional 25 ft. lbs. of torque (forward) and 20 ft. lbs. of torque (reverse) when vented through the front exhaust.
- Aluminum front housing and composite rear housing combine to deliver a durable, lightweight and balanced unit.
- Reverse bias motor provides greater torque in the reverse direction.
- Ribbed, textured handle provides maximum comfort and control.
- Contoured trigger eliminates pinch points and delivers "featherable" power control.
- One-hand Forward/Reverse toggle-style lever.
- Three-position power regulator for greater versatility.
- Twin-hammer impact mechanism for longer life and greater power.



IMC500
1/2" Drive Composite Housing
Impact Wrench

1/2" Drive Air Impact Wrenches

Specifications	IM6500HP	IMC500
Square Drive Size, inches	1/2	1/2
Recommended Air Pressure, PSIG (kPa)	90 (620)	90 (620)
Air Consumption, Free Speed, CFM (SCFM) [l/min.]	5.3 (38) [150.1]	5.9 (42) [167.0]
Air Consumption, Working, CFM (SCFM) [l/min.]	4.2 (30) [118.9]	3.5 (25) [99.1]
Free Speed, Forward, RPM	8500	9500
Free Speed, Reverse, RPM	8500	10500
Sound Level, Free Speed, dBA	103	108.5 (Bypass Open)
Sound Level, Working, dBA	92	95.5 (Bypass Open)
Blows per Minute	1300	1250
Torque Range, ft. lb. (N•m)	50-400 (68-544)	50-400 (68-544)
Maximum Torque, ft. lb. (N•m)	575 (780) Forward 650 (882) Reverse	525 (712) Forward (Bypass Open) 620 (841) Reverse (Bypass Open) 500 (678) Forward (Bypass Closed) 600 (814) Reverse (Bypass Closed)
Air Inlet Thread Size	1/4"-18 NPT	1/4"-18 NPT
Recommended Hose Size, inches (mm)	3/8 (10) ID min.	3/8 (10) ID min.
Overall Length, inches (mm)	7.95 (201.9)	7.81 (195)
Height, inches (mm)	7.95 (201.9)	7.25 (184.2)
Width, inches (mm)	2.67 (67.8)	2.75 (69.9)
Weight, lbs. (kg)	6.7 (3.04)	5.0 (2.27)
Vinyl Boot	YA980	IMC500BOOT

1/2" Drive Impact Wrenches Power Tools, Air

- Aluminum Housings—lightweight to help reduce fatigue and durable for long, reliable service.
- Rotary Action Air Motors—ball bearing mounted for balance, speed, and power.
- Variable Speed Triggers—adjust to meet your speed requirements.

- Adjustable Air Regulators—5 position regulator for versatility.
- Removable Brass Filters—screen out dirt that can clog and damage the impact mechanism.
- EU/CE—DE, ES, FR, IT, NL, UK - all models.

AT555A
1/2" Drive Impact Wrench



AT555A Features:

- Reverse Bias Air Motor provides greater power in reverse when extra breakaway torque is needed.
- Molded Ergonomic Handle Grip.
- Quiet Performance Muffler.
- Powerful Twin Hammer Clutch.
- Built-in Power Regulator.
- Through-handle Exhaust.

AT650 Features:

- Lightweight aluminum front housing and composite rear housing (patent pending) contribute to an extremely durable, lightweight, balanced unit.
- Maximum Torque: 550 ft lbs. Forward; 600 ft lbs. Reverse.
- Twin hammer mechanism with oil bath.
- Molded comfort grip is chemically bonded to the housing.
- Balanced to reduce user fatigue.
- One-finger Forward/Reverse lever (patent pending).
- Four-way power regulator can be set with one hand.
- Reinforced composite housing is durable, lightweight and not cold to the touch.
- Comfort grip reduces vibration while providing a sure gripping surface for slippery hands.

AT123 1/2" Drive Impact Wrench
AT123L 1/2" Drive Long Anvil Impact Wrench (not shown)



AT123/AT123L Features:

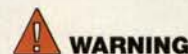
- Steel Nose Case with lightweight aluminum housing.
- Pressure feed grease lubrication.
- Five-position air speed regulator.
- Convenient slide bar forward/reverse.



AT650
1/2" Drive Impact Wrench

1/2" Drive Air Impact Wrenches

Specifications	AT555A	AT123	AT123L	AT650
Square Drive Size, inches	1/2	1/2	1/2	1/2
Recommended Air Pressure, PSIG (kPa)	90 (620)	90 (620)	90 (620)	90 (620)
Air Consumption, Free Speed, CFM (SCFM) [l/min.]	3.5 (25) [99.11]	5.2 (38)	5.2 (38)	3.6 (26) [101.9]
Air Consumption, Working, CFM (SCFM) [l/min.]	2.2 (16) [62.3]	2.8 (79) [79.2]	2.8 (79) [79.2]	2.6 (19) [73.6]
Air Consumption, Average, CFM (SCFM) [l/min.]	—	4.2 (30) [118.9]	4.2 (30) [118.9]	—
Free Speed, Forward, RPM	6800	8000	8000	7000
Free Speed, Reverse, RPM	7500	8000	8000	8000
Sound Level, Free Speed, dBA	87.5	96.3	96.3	94.2
Sound Level, Working, dBA	99.8	117.2	117.2	105.8
Blows per Minute	1000	1000	1000	1140
Torque Range, ft. lb. (N•m)	50-450 (68-610)	25-300 (35-408)	25-300 (35-408)	100-450 (135-610)
Maximum Torque, Forward, ft. lb. (N•m)	475 (644)	425 (578)	425 (578)	550 (746)
Maximum Torque, Reverse, ft. lb. (N•m)	550 (745)	425 (578)	425 (578)	600 (813)
Air Inlet Thread Size	1/4"-18 NPT	1/4"-18 NPT	1/4"-18 NPT	1/4"-18 NPT
Recommended Hose Size, inches (mm)	3/8 (10) I.D. min.	3/8 (10) ID Min.	3/8 (10) ID Min.	3/8 (9.5) ID Min.
Overall Length, inches (mm)	7.38 (187)	7.3 (185)	9.3 (236)	7.6 (192)
Weight, lbs (kg)	5.8 (2.63)	5.8 (2.63)	6.1 (277)	4.3 (1.95)
Vinyl Boot	AT531-25	AT123-45	AT123-45	—



WARNING

- Use only impact sockets and accessories.
- Read additional safety precautions on pages M1 to M4.



Power Tools, Air 3/8" Drive Impact Wrenches

- Aluminum Housings—lightweight to help reduce fatigue and durable for long, reliable service.
- Rotary Action Air Motors—ball bearing mounted for balance, speed, and power.
- Variable Speed Triggers—adjust to meet your speed requirements.

- Adjustable Air Regulators—5 position regulator for versatility.
- Removable Brass Filters—screen out dirt that can clog and damage the impact mechanism.
- EU/CE—DE, ES, FR, IT, NL, UK - all models.

IM3100 3/8" Drive VERSA-DRIVER® Impact Wrench



IM3100 Features:

PATENTED VERSA-DRIVE® SYSTEM

- Select from a series of interchangeable 3/8" and 1/2" square drive ringed and pinned anvils for greater job versatility. Includes 3/8" and 1/2" ringed anvils that install in seconds. Six optional anvils available. Since anvils are interchangeable, the entire gun does not need to be sent in for repairs if the drive unit fails. Just replace the anvil.

PATENTED POWER BOOST MUFFLER BY-PASS VALVE

- Increases torque to 275 ft. lbs. when vented through the front exhaust.
- Front exhaust is deflected downwards, away from the work.
- Bypass levers on both sides are recessed for clearance and to avoid accidental operation.

LIGHTWEIGHT

- One piece die cast 380 aluminum precision machined housing yields an extremely durable, lightweight, balanced unit with minimal vibration.

ERGONOMIC AND DURABLE DESIGN

- Balanced design reduces fatigue.
- Reverse bias motor provides greater torque in the reverse direction.
- Comfort cushion ergonomic trigger improves control.
- Large Forward/Reverse selector knob.
- Five-Position built-in air regulator.
- Twin-hammer impact mechanism is durable and hard hitting.
- Patented ALCRYN® comfort cushion grip resists most shop chemicals. Field replaceable.
- Made in USA.



IM31 3/8" Drive Impact Wrench

IM32 3/8" Drive Compact Impact Wrench



3/8" Drive Air Impact Wrenches

Specifications	IM3100
Square Drive Size, inches	3/8 or 1/2
Recommended Air Pressure, PSIG (kPa)	90 (620)
Air Consumption, Free Speed, CFM (SCFM) [l/min.]	4.59 (32.7) [130]
Air Consumption, Working, CFM (SCFM) [l/min.]	4.14 (29.5) [117]
Free Speed, Forward, RPM	9200
Free Speed, Reverse, RPM	9500
Sound Pressure Level (Bypass Open), dBA	94.5
Sound Power Level (Bypass Open), dBA	106.1
Blows per Minute	1400
Maximum Torque, ft. lb. (N•m) (Bypass Open)	275 (372) Forward 300 (406) Reverse
Maximum Torque, ft. lb. (N•m) (Bypass Closed)	200 (271) Forward 225 (305) Reverse
Air Inlet Thread Size	1/4"-18 NPT
Recommended Hose Size, inches (mm)	3/8 (10) ID min.
Vinyl Boot	YA986
Overall Length, inches (mm)	6.9 (175.3)
Weight, lbs. (kg)	4.16 (1.9)

Square Drivers Included:

- IMBFR1R 3/8" Ringed Anvil.
- IMBSR1R 1/2" Ringed Anvil.

Optional Square Drivers:

- IMBFP1R 3/8" Pinned Anvil.
- IMBFP3R 3/8" Long Pinned Anvil.
- IMBFR3R 3/8" Long Ringed Anvil.
- IMBSP1R 1/2" Pinned Anvil.
- IMBSP3R 1/2" Long Pinned Anvil.
- IMBSR3R 1/2" Long Ringed Anvil.



3/8" Drive Air Impact Wrenches

Specifications	IM31	IM32	AT360
Square Drive Size, inches	3/8	3/8	3/8
Recommended Air Pressure, PSIG (kPa)	90 (620)	90 (620)	90 (620)
Air Consumption, Free Speed, CFM (SCFM) [l/min.]	3.0 (21) [84.95]	3.0 (21) [84.95]	3.3 (23) [93.45]
Air Consumption, Working, CFM (SCFM) [l/min.]	2.7 (19) [76.46]	2.7 (19) [76.46]	2.2 (16) [62.3]
Free Speed, Forward, RPM	9000	9000	9000
Free Speed, Reverse, RPM	9000	9000	9500
Sound Level, Free Speed, dBA	99	100	94.3
Sound Level, Working, dBA	94	96	107.3
Blows per Minute	1100	800	1420
Torque Range, ft. lb. (N•m)	30-135 (41-183)	30-135 (41-183)	50-250 (67.8-339)
Maximum Torque, ft. lb. (N•m)	160 (217)	160 (217)	250 (339)
Air Inlet Thread Size	1/4"-18 NPT	1/4"-18 NPT	1/4"-18 NPT
Recommended Hose Size, inches (mm)	3/8 (10) ID Min.	3/8 (10) ID Min.	3/8 (10) ID Min.
Overall Length, inches (mm)	6.4 (162)	7.75 (197)	6.6 (167.6)
Height, inches (mm)	6.9 (175)	2.75 (70)	7 (177.8)
Width, inches (mm)	1.9 (48)	2 (51)	2.25 (57.15)
Weight, lbs (kg)	3.45 (1.57)	3.0 (1.36)	3.0 (1.36)
Vinyl Boot	YA877A	YA1032	AT360-25

AT360 3/8" Drive Composite Impact Wrench



AT360 Features:

- Aluminum front housing and composite rear housing combine to deliver a durable, lightweight and balanced unit.
- Twin-hammer impact mechanism for longer life and greater power.
- Reverse bias motor provides greater torque in the reverse direction.
- Oil bath lubrication prolongs tool life.
- Ribbed, textured handle provides maximum comfort and control.
- Contoured trigger eliminates pinch points and delivers "featherable" power control.
- One-hand Forward/Reverse toggle-style lever.

3/8" Drive Impact Wrenches

Power Tools, Air

3/8" Drive Air Impact Wrenches

Specifications	AT351	AT355A	AT321
Square Drive Size, inches	3/8	3/8	3/8
Recommended Air Pressure, PSIG (kPa)	90 (620)	90 (620)	90 (620)
Air Consumption, Free Speed, CFM (SCFM) [l/min.]	2.5 (18) [70.8]	3.5 (25) [99.11]	3.8 (27) [107.5]
Air Consumption, Working, CFM (SCFM) [l/min.]	—	1.9 (14) [53.8]	—
Free Speed, Forward, RPM	9700	8000	11000
Free Speed, Reverse, RPM	9700	9000	11000
Sound Level, Free Speed, dBA	96.6	84.6	100.0
Sound Level, Working, dBA	109.2	95.6	109.0
Blows per Minute	1200	1170	1500
Torque Range, ft. lb. (N•m)	15-160 (20-217)	50-185 (68-251)	20-125 (27-170)
Maximum Torque, ft. lb. (N•m)	175 (237)	185 (251) Forward 210 (285) Reverse	180 (245) Forward 180 (245) Reverse
Air Inlet Thread Size	1/4"-18 NPT	1/4"-18 NPT	1/4"-18 NPT
Recommended Hose Size, inches (mm)	3/8 (10) ID Min.	3/8 (10) ID Min.	3/8 (10) ID Min.
Overall Length, inches (mm)	7.63 (194)	6.3 (159)	6.1 (155)
Height, inches (mm)	2.1 (53.34)	7.2 (182.9)	6.2 (157.5)
Width, inches (mm)	1.75 (44.45)	2.4 (60.96)	2.6 (66.04)
Weight, lbs (kg)	2.55 (1.15)	3.75 (1.70)	2.9 (1.32)
Vinyl Boot	—	YA977	—

EU/CE—DE, ES, FR, IT, NL, UK - all models.

AT351
3/8" Drive
Impact Wrench



AT355A
3/8" Drive
Impact Wrench



AT321
3/8" Drive
Impact Wrench



AT235
1/4" Drive Micro
Impact Wrench



AT225B
1/4" Drive Lightweight,
Compact Impact Wrench



1/4" Drive Air Impact Wrenches

Specifications	AT225B	AT235
Square Drive Size, inches	1/4	1/4
Recommended Air Pressure, PSIG (kPa)	90 (620)	90 (620)
Air Consumption, Free Speed, CFM (SCFM) [l/min.]	1.4 (10) [39.64]	2.1 (15) [59.4]
Free Speed, RPM	7000	13000 (max)
Sound Level, Free Speed, dBA	70.5	81.2
Torque Range, ft. lb. (N•m)	10-28 (13-38)	5-25 (1-34)
Air Inlet Thread Size	1/4"-18 NPT	1/4"-18 NPT
Recommended Hose Size, inches (mm)	3/8 (10) ID Min.	3/8 (10) ID Min.
Overall Length, inches (mm)	4.6 (117)	5.55 (141)
Weight, lbs (kg)	2.3 (1.05)	1.68 (0.76)
Vinyl Boot (Optional)	YA975	—

EU/CE—DE, ES, FR, IT, NL, UK - all models.

Impact Wrench Accessories

EW156A



EW156A (1/2") Keyless Impact Chuck Converts 1/2" drive impact wrenches to three-jaw, drill-type chuck operation for impact drilling.

EW157 (3/8") Keyless Impact Chuck Similar to EW156A except it is for use with 3/8" drive impact wrenches.

AT123-7-100 Tune-Up Kit. Use on AT123 only. Symptoms indicating repair is needed include air motor spins but anvil does not turn, air motor spins and anvil turns but no impacting occurs, or tools stalls while impacting.

AT123-18-100 Tune-Up Kit. Use on AT123 and AT123L. Symptoms indicating repair is needed include trigger does not work properly, air leaks while tool is idle or running, air motor has reduced RPM or air motor is excessively noisy.

AT123-16-100 Tune-Up Kit. Use on AT123 and AT123L. Symptoms indicating repair is needed include trigger does not work properly or air leaks while tool is idle or running.

YA848

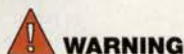


YA877A



Impact Wrench Boots

Stock No.	Air Tool	Stock No.	Air Tool
YA770	IM75	YA980	IM6100 Series
YA848	IM51 Series, IM510 Series	YA977	AT355A
YA877A	IM31 Series	YA979	AT555A, AT555AL
YA975	AT225 Series	YA123-45	AT123, AT123L
YA978	IM5100	AT321-44	AT321
YA1032	IM32 Series	IMC500BOOT	IMC500
AT531-25	AT555A	IM6100-28	IM6100, IM6100L
YA986	IM3100	IM610028A	IM6500HP



WARNING

- Use only impact sockets and accessories.
- Do not use power tool accessories above their maximum rated RPM.
- Read additional safety precautions on pages M1 to M4.



AT705B

1/2" Drive Air Ratchet.

It's a 1/2" drive ratchet in a 3/8" drive body. AT Series Air Ratchets are designed to provide long, continuous service. Their rotary air motors are ball bearing mounted for long service. A precision planetary gear system provides smooth operation.

EU/CE—DE, ES, FR, IT, NL, UK.



1/2" Drive Air Ratchets

Specifications	AT705B
Square Drive, inches	1/2
Recommended Air Pressure, PSIG (kPa)	90 (620)
Air Consumption, Free Speed, CFM (SCFM) [l/min]	3.0 (22) [84.95]
Free Speed, RPM	150
Sound Level, Free Speed, dBa	89
Torque Range	5-50 (7-68)
Air Inlet Thread Size	1/4"-18 NPT
Recommended Hose Size, inches (mm)	3/8 (10) ID Min.
Overall Length, inches (mm)	10.12 (391)
Vinyl Boot (included)	AT700E49A

3/8" Drive Air Ratchets

FAR7200 Features:

- Patented Muffler Bypass—option to use tool in the open quiet mode utilizing two different performance characteristics.
- Patented Stop Lock Pins—prevents the pawls from locking up.
- Comfortable Elastomeric Grip—insulates tool from cold and helps reduce user fatigue.

- Comfortable Elastomeric Trigger Button—one piece button will not separate from stem.
- Tip Value Style Trigger—provides featherability and increased air flow.
- Made in USA.
- EU/CE—DE, ES, FR, IT, NL, UK - all models.



3/8" Drive Air Ratchets

Specifications	FAR7200	FAR72B	PTR225A
Square Drive, inches	3/8	3/8	3/8"
Recommended Air Pressure, PSIG (kPa)	90 (620)	90 (620)	90 (620)
Air Consumption, Free Speed, CFM (SCFM) [l/min]	4.5 (33) [127.4]	2.7 (19) [76.46]	1.6 (10.7) [45.31]
Free Speed, RPM	260 (open mode), 200 (quiet mode)	180	250
Sound Level, Free Speed, dBa	93 (open mode), 87 (quiet mode)	92	85
Torque Range, Ft. Lbs. (N•m)	5-70 (7-97) (open mode), 5-50 (7-67) (quiet mode)	5-60 (7-81)	0-30 (0-40)
Air Inlet Thread Size	1/4"-18 NPT	1/4"-18 NPT	1/4"-18 NPT
Recommended Hose Size, inches (mm)	3/8 (10) ID Min.	3/8 (10)	3/8 (10) ID Min.
Overall Length, inches (mm)	12.13 (308.1)	11.875" (531)	7.5 (191)
Vinyl Boot (included)	YA889	YA889	—

3/8" Drive Air Ratchets Power Tools, Air

PTR205A/PTR215A Features:

- Wobble Drive allows socket to pivot up to 11° (PTR215A only).
- Thermally-balanced Air Motor routes air between housing and liner for cooler tool temperatures.
- Ergonomic Cushion Grip insulates against cold and vibration.

- Adjustable Exhaust Outlet and rear of tool allows choice of exhaust direction.
- Ten-Position Power/Speed Regulator allows easy RPM adjustment.
- Paddle Style Trigger for precise speed control.
- EU/CE—DE, ES, FR, IT, NL, UK - all models.

PTR205A 3/8" Drive Air Ratchet



PTR215A 3/8" Wobble Drive Air Ratchet



AT700F 3/8" Drive Air Ratchet



AT702 3/8" Drive Air Ratchet



AT702 Features:

- Fast – 200 RPM Free Speed.
- Powerful – 65 ft. lbs. maximum torque produced by patented flywheel mechanism.
- Comfortable – Ergonomic Composite Housing.
- Rugged – Ball Bearing Mounted Air Motor coupled with Precision Planetary Gear System.
- Easy To Use – Variable speed Throttle and Adjustable Air Regulator.
- Protection – Includes Vinyl Head Boot.
- EU/CE—DE, ES, FR, IT, NL, UK.

AT703 3/8" Drive Air Ratchet



AT703 Features:

- Lightweight – aluminum housing.
- Rugged – ball bearing mounted air motor and precision planetary gear system.
- Easy to Use – variable speed throttle plus adjustable air regulator.
- Vinyl Head Boot – included.

AT205A 3/8" Drive Air Ratchet



AT714 3/8" Drive COBRA-HEAD® Ratchet

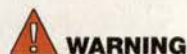


AT714 Features:

- Head pivots a full 45° up or down for greater accessibility.
- Molded ergonomic handle grip for comfort and control.
- Forward handle exhaust.

3/8" Drive Air Ratchets

Specifications	PTR205A	PTR215A	AT700F	AT702	AT703	AT714	AT205A
Square Drive, inches	3/8	3/8 (11° Wobble)	3/8	3/8	3/8	3/8	3/8
Recommended Air Pressure, PSIG (kPa)	90 (620)	90 (620)	90 (620)	90 (620)	90 (620)	90 (620)	90 (620)
Air Consumption, Free Speed, CFM (SCFM) (l/min)	1.6 (10.7) [45.31]	1.6 (10.7) [45.31]	3.0 (22) [84.95]	3 (22) [84.95]	3.0 (22) [84.95]	2.5 (18) [70.8]	1.4 (10) [39.64]
Free Speed, RPM	250	225	150	200	200	200	150
Sound Level, Free Speed, dBA	85	85	89	95.1	90.7	104.2	85
Torque Range, ft. lb. (N•m)	0-30 (0-40)	0-25 (0-33)	5-45 (7-61)	5-60 (7-81)	5-55 (7-75)	0-38 (0-52)	5-22 (7-31)
Air Inlet Thread Size	1/4"-18 NPT	1/4"-18 NPT	1/4"-18 NPT	1/4" - 18NPT	1/4" - 18NPT	1/4" - 18NPT	1/4"-18 NPT
Recommended Hose Size, inches (mm)	1/4 (6.35) ID Min.	1/4 (6.35) I.D. Min.	3/8 (10)	3/8 (10)	3/8 (10)	3/8 (10)	1/4 (6.35) ID Min.
Overall Length, inches (mm)	8.5 (216)	7.5 (190)	10.12 (391)	10.43 (265)	10.47 (266)	10.5 (267)	7 (178)
Vinyl Boot (included)	—	—	AT700E49A	AT700E49A	—	—	AT200D22A



WARNING

- Use only impact sockets and accessories.
- Read additional safety precautions on pages M1 to M4.

Power Tools, Air

1/4" Drive Air Ratchets

Snap-on® air ratchets are built for performance

FAR25 1/4" Drive Air Ratchet.
Lightweight with split housing design.
U.S. Patents 5,142,952, 5,231,901,
5,237,885 and 5,309,714 apply.



FAR25 Features:

- Air Motor vanes resist wear, chipping, cracking and moisture.
- Needle Bearing Supported Drive Shaft provides for a smoother running tool.
- Replaceable Air Inlet Bushing prevents cross threading of air inlet on handle.
- Ergonomic Handle provides a sure grip and reduces fatigue.
- Variable Speed Trigger is spring loaded paddle style.
- Directional Muffler directs exhaust rearward away from the user.
- Low dBA rating reduces fatigue from noise.
- EU/CE—DE, ES, FR, IT, NL, UK.

AT200D
1/4" Drive Air Ratchet



AT202
1/4" Drive Air Ratchet



Every AT Series Air Ratchet is designed to provide long, continuous service. The rotary air motors are ball-bearing mounted for long service. A precision planetary gear system provides smooth operation. Each air ratchet includes a protective vinyl boot.

EU/CE—DE, ES, FR, IT, NL, UK.



PTR200A
1/4" Drive Mini Air Ratchet
EU/CE—DE, ES, FR, IT, NL, UK.

1/4" Drive Air Ratchets

Specifications	FAR25	PTR200A	AT200D	AT202
Square Drive, inches	1/4	1/4	1/4	1/4
Recommended Air Pressure, PSIG (kPa)	90 (620)	90 (620)	90 (620)	90 (620)
Air Consumption, Free Speed, CFM (SCFM) [l/min]	1.4 (10) [39.64]	1.6 (10.7) [45.31]	1.4 (10) [39.64]	3.1 (22) [87.98]
Free Speed, RPM	150	225	150	285
Sound Level, Free Speed, dBA	93	85	85	84.5
Torque Range, ft. lb. (N•m)	5-25 (7-31)	0-25 (0-33)	1-20 (1-27)	5-30 (7-34)
Air Inlet Thread Size	1/4"-18 NPT	1/4"-18 NPT	1/4"-18 NPT	1/4"-18 NPT
Recommended Hose Size, inches (mm)	1/4 (6.35) ID Min.	1/4 (6.35) ID Min.	1/4 (6.35) ID Min.	1/4 (6.35) ID Min.
Overall Length, inches (mm)	6.75 (171)	7.5 (191)	8.75 (222)	7.4 (188)
Vinyl Boot (included)	YA888	—	AT200D22A	—

Air Ratchet Accessories

Grease Gun and Accessories

YA4190 Grease Gun. Fits all flush-type fittings. Good for FAR72B Air Ratchet. Lubricating flush-type fittings such as those used on FAR70 Series Air Ratchets. Spring return plunger. 3 oz. capacity.

YA4190CAP Air Ratchet Grease Gun Head.

YA4190DIS Grease Dispenser. Attachment for YA4190. Contains 3 oz. of Mobil Temp SHC-32 grease for Snap-on® FAR Series Air Ratchets.

YA4190FAR Air Ratchet Grease Gun Assembly.

YA4190



YA4190DIS



YA888



Vinyl Boots

Air Tool	Vinyl
Stock No.	Boot
FAR25 Series	YA888
FAR72 Series	YA889
AT200 Series	AT200D22A

Air Tool	Vinyl
Stock No.	Boot
AT205 Series	AT200D22A
AT700 Series	AT700E49A
AT705 Series	AT700E49A

1/2" Capacity Drills

Power Tools, Air

PDR5A/PDR3A Features:

- Single Planetary System uses three planetary gears to deliver higher RPM's for drilling in softer materials such as wood or aluminum.
- Ball Bearings support motor shaft and planetary gears for longer tool life.
- Spring Loaded Vane Air Motors provide low speed power and stall torque resistance.
- Replaceable Air Inlet Bushing prevents cross threading of air inlet on handle.
- Trigger-Mounted Forward/Reverse Lever allows one hand operation.
- Contoured Variable Speed Trigger prevents slippage and eliminates pinch point.
- EU/CE—DE, ES, FR, IT, NL, UK.



PDR5A
1/2" Reversible Air Drill



AT856
1/2" Reversible Air Drill

AT856 Features:

- 1/2" Keyed Chuck.
- Variable Speed Trigger.
- One hand forward/reverse operation.
- Bottom Handle Exhaust – away from the work.
- Removable auxiliary handle included.
- EU/CE—DE, ES, FR, IT, NL, UK.

1/2" Capacity Drills

Specifications	PDR5A	AT856
Drill Description	1/2" Reversible	1/2" Reversible
Recommended Air Pressure, PSIG (kPa)	90 (620)	90 (620)
Air Consumption, Free Speed, CFM (SCFM) [l/min]	3.5 (25) [99.11]	4.1 (29.5) [116]
Air Consumption, Working, CFM (SCFM) [l/min]	3.8 (27) [107.6]	
Auxiliary Handle (optional)	PDAH1	Yes
Chuck Range, Diameter, inches	5/64-1/2	—
Free Speed, RPM	490	450
Horsepower	.45	.3
Sound Level, Free Speed, dBA	82	81.2
Sound Level, Working, dBA	82	81.2
Spindle Thread, inches	1/2"-20 UNF	1/2"-20 UNF
Torque Range, in. lb. (N•m)	0-120 (0-15)	0-150 (0-20.3)
Air Inlet Thread Size	1/4"-18 NPT	1/4"-18 NPT
Recommended Hose Size, inches (mm)	3/8 (10) ID Min.	3/8 (10) ID Min.
Overall Length, inches (mm)	9 (229)	5.55 (141)
Replacement Chuck with Key	DCA500	AT856-2
Replacement Key	PD30-3	—
Vinyl Boot	YA885	—



PDR3A
3/8" Reversible Air Drill



AT803
3/8" Reversible Air Drill

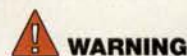
3/8" Capacity Drills

Specifications	PDR3A	AT803	AT801A	AT811
Drill Description	3/8" Capacity Air Drill	3/8" Reversible	3/8" Reversible	3/8" 90°
Chuck Range, Diameter, inches	1/16-3/8	1/16"-3/8"	1/16-3/8	1/16-3/8
Air Consumption, Free Speed, CFM (SCFM) [l/min]	3.5 (25) [99.11]	—	2.5 (18) [70.79]	3.6 (24) [93.6]
Air Consumption, Working, CFM (SCFM) [l/min]	3.2 (23) [90.61]	4.0 (28.5) [112.8]	1.8 (13) [50.97]	—
Horsepower	.45	.2	.2	0.25
Free Speed, RPM	1,675	2,000	1,500	1,320
Sound Level, Free Speed, dBA	82	100	82	—
Sound Level, Working, dBA	82	105	95	—
Spindle Thread	3/8"-24 UNF	3/8"-24 UNF	3/8"-24 UNF	3/8"-24 UNF
Torque Range, in. lb. (N•m)	0-40 (0-4)	0-35 (0-4.2)	—	0-55 (0-6.36)
Air Inlet Thread Size	1/4"-18 NPT	1/4"-18 NPT	1/4"-18 NPT	1/4"-18 NPT
Recommended Hose Size, inches (mm)	3/8 (10) ID Min.	3/8 (10) ID Min.	3/8 (10) ID Min.	3/8 (10) ID Min.
Recommended Air Pressure, PSIG (kPa)	90 (620)	90 (620)	90 (620)	90 (620)
Overall Length, inches (mm)	8 (203)	7.64 (194)	6.6 (168)	8.2 (208)
Keyless Chuck	PDR3A-2	—	AT801A-3	—
Vinyl Boot (optional)	YA883	—	—	—
Auxiliary Handle (optional)	PDAH1	—	—	—
Replacement Chuck with Key	—	AT803-2	—	AT803-2
Replacement Chuck only	—	AT825-7	—	AT803-2

EU/CE—DE, ES, FR, IT, NL, UK.

3/8" Capacity Drills

AT811 3/8" 90° Angle
Reversible Air Drill



WARNING

- Use only impact sockets and accessories.
- Read additional safety precautions on pages M1 to M4.

See Warranty Information on inside front cover.

Power Tools, Air Drill Accessories

AT825-6



DCA500



PDAH1



DC150



YA883



AT825-6 Drill Chuck. 1/4" Chuck fits AT825A. Thread size is 3/8"-24.

AT825-7 1/4" Chuck Key.

DC150 Chuck Adapter Kit. Includes 1/4" and 3/8" drill chucks, a chuck key, and a set of 5 stubby drill bits in 1/8", 3/16", 1/4", 5/16", and 3/8" sizes. Packaged in a plastic case.

DC15014 1/4" Drill Chuck.

DC15038 3/8" Drill Chuck.

DCA375 3/8" Chuck. Fits PDR3A Drill. Thread size is 3/8"-24. Capacity is 1/32" to 3/8". Includes PD3A3 Chuck Key.

DCA500 1/2" Chuck. 1/2" Chuck fits PDR5A Drill. Thread size is 1/2"-20. Capacity is 1/16" to 1/2". Includes PD30-3 Chuck Key.

DCB375 3/8" Chuck. General usage on light-duty drills. 3/8"-24 thread. Capacity is 1/32" to 3/8". Includes AT825-7 Chuck Key.

DCB500 1/2" Chuck. 1/2" Chuck fits PDR3A Drill. Thread size is 3/8"-24.

Capacity is 1/16" to 1/2". Includes PD30-3 Chuck Key.

PD30-3 Chuck Key. (for PDR3A) Drill.

PDR3A-2 3/8" Keyless Chuck. (for PDR3A) Drill.

PDAH1 Auxiliary Handle. Provides two-handed power and control when used in conjunction with air drills.

YA883 Vinyl Air Tool Boot. (for PDR3A).

YA885 Vinyl Air Tool Boot. (for PDR5A).

DM2000 Features:

- Drill curved surfaces down to 20" diameter
- Fabrication Drilling
 - Thread tapping up to 1/2" UNF
 - Holesaw drilling on fiberglass board
 - Drill or broach pipes with minimum 2" diameter
 - Offset drilling through 180°
- Stainless steel sheet metal cutting with speed reducer
 - Can be used underwater



DM2000 VAC-FORCE® Hole Cutting Machine

VAC-FORCE® Hole Cutting Machine

Vacuum base clamps to work surface. Air feeds cylinder pushes the cutter through work material with no extra effort from operator. Trigger controls feed pressure to work surface. Safety valve interrupts air supply unless vacuum base is securely attached to work surface. Includes PV2000 Pipe-Vac adaptor.

Specifications	DM2000
Capacity, Sheet Steel	3/16" (5mm) to 2 1/2" (63mm)
Capacity, Stainless Steel Sheet	2 1/2" (63mm) Maximum (with Evergreen planetary drive system)
Capacity, Steel Plate	1" (26mm)
Recommended Air Pressure, PSIG (kPa)	100 (600)
Vacuum Generated	85 to 90%
Length, inches (mm)	11 (280)
Height, inches (mm)	11 (280)
Width, inches (mm)	3 1/2 (89)
Weight, lbs. (kg)	6 (2.7)

VFL2000 Lubricator (For DM2000). Air feed pressure lubricator applies a mist of cutting oil when button is pressed. Optional accessory for the DM2000 VAC-FORCE® Hole Cutting Machine.

VFA2000 Cutter Arbor (For DM2000). Accommodates 3/4" shank broach cutters to a 1" depth of cut. Optional accessory for the DM2000 VAC-FORCE® Hole Cutting Machine.

PV2000 Pipe-Vac Adaptor. Adaptor allows the DM2000 VAC-FORCE® Hole Cutting Machine to be used on pipes with minimum 2" diameter.

DMSK100 Shim Kit. For DM2000 VAC-FORCE® Hole Cutting Machine.

DRILLMATE™ Portable Drill Press

DRILLMATE™ puts you in control and ensures that even pressure is applied to the cutting edge of the drill or broach cutter. Unit includes channel stem adaptor with 4" reach, V-block adaptor for drilling pipe up to 2 1/2" diameter and 5mm Allen Key. Can be used with drills with drill neck diameter of 1 13/16" maximum. Recommended drills include the Snap-on® PDR3A/PDR5A models and the Blue-Point® AT856/AT803 models.

Specifications	DM100
Hole Size With Twist Drill	Blind (5/16"), With Pilot (1/2")
Throat Length	7 1/4" (185mm)
Carriage Travel	11" (280mm)
Force Ratio	14:1
Weight, lbs. (kg)	3.5 (1.6)

DM100 Features

- V-Block adaptor allows pipe drilling up to 2 1/2" diameter
- General fabrication applications with broach cutters up to 1" ID
- Truck frame drilling with broach cutters up to 1" ID
- Easy overhead drilling
- Safer drilling of materials



DMHB01



Hole Broach Cutters

For use with DM2000 VAC-FORCE®,

DM100 DRILLMATE™ or drill presses. Broach cutters cut precise, burr-free holes 300% faster than twist drills. Titanium coated for less friction and longer life. Thin wall design reduces power requirement.

M42 grade material produces longer cutter life and reduces sharpening requirements. Lubrication point on arbor directs lubricant to inside of cutter. Shanks on cutters have locking set screw for secure retention. Pilot pin provides easier and accurate starts.

Stock No.	Size, inches	Shank Size, inches	Cutting Depth, inches	Cutter Tolerance, inches
DMHB7/16	7/16	3/4	5/8	+0.000/-0.001
DMHB1/2	1/2	3/4	5/8	+0.000/-0.001
DMHB9/16	9/16	3/4	5/8	+0.000/-0.001
DMHB5/8	5/8	3/4	5/8	+0.000/-0.001
DMHB3/4	3/4	3/4	5/8	+0.000/-0.001
DMHB7/8	7/8	3/4	5/8	+0.000/-0.001
DMHB1	1	3/4	5/8	+0.000/-0.001

DMHBA/PIN Arbor and Pin. Arbor and pin for DMHB Series Hole Broach Cutters.

DMHB01 Cutter Set. Includes cutters DMHB1/2 thru DMHB7/8 (1/2" to 7/8"), DMHBA/PIN Arbor and Pin, and hex key (6 pcs) in DMHBCASE Plastic Storage Case.

DMHBCASE Storage Case. Plastic storage case for DMHB01 Cutter Set.

Sanders and Polishers Power Tools, Air

Expert Sanding Capability!

- *Fits Every Application*—start with the PS200 for initial paint removal, and the PSF100 for final sanding and finishing work. We have sanders to help you every step of the way.
- *Soft Textured Rubber Exterior*—gives a comfortable, non-slip grip, and insulates against cold operating conditions. The special covering also reduces vibration and helps protect inside components if sander is dropped.
- *Sleek, Trim, Lightweight Design*—compact, yet allows a natural, easy grip.

- *Centrally Located Air Flow Regulator*—controls main air flow and allows either right or left hand operation.
- *Paddle Style Trigger*—provides easy operation of variable speed control and enhances feathering capabilities.
- *Smoother Operation than Comparable Units and Low Vibration*—comfortable, controllable operation, and longer tool life. Efficient and quiet ball bearing mounted rotary air motor.



PS200 8" Orbital Sander.

Designed for initial paint removal and sanding operations. Features include soft textured rubber exterior, sleek lightweight design, centrally located air flow regulator and paddle style trigger. U.S. Patents 4,879,847; 4,898,524 and 4,903,944 apply. U.S. Design Patent D324,803 also applies.

Orbital Sanders

Specifications	PS200	AT408
Description	8" Orbital Sander	8" Sander
Recommended Air Pressure, PSIG (kPa)	90 (620)	90 (620)
Air Consumption, Free Speed, CFM (SCFM) [l/min]	3.4 (24) [96.28]	5 (36) [141.6]
Horsepower	.25	—
Free Speed, RPM	800	850
Sound Level, Free Speed, dBA	85	87
Pad/Disc Size, Diameter, inches (mm)	8 (203)	8 (203)
Air Inlet Thread Size	1/4"-18 NPT	1/4"-18 NPT
Recommended Hose Size, inches (mm)	5/16 (8) ID Min.	1/4 (8) ID min.
Height, inches (mm)	—	4.7 (120)
Overall Length, inches (mm)	12.5 (318)	11 (280)
Replacement Pad (optional)	PS200-16B	AT408-2
Replacement Pad (HOOKIT®)	MMM05783	—

AT408 8" Sander

- EU/CE—DE, ES, FR, IT, NL, UK.



AT406A Palm Sander



AT406A and AT406AV Palm Sanders are ideal for final sanding and finishing applications.

AT406AV has same operating specifications as AT406A Sander. Includes vacuum bag and hose for internal vacuum system plus adaptor for connection to external vacuum system.

- EU/CE—DE, ES, FR, IT, NL, UK.

Random Orbital Sanders

Specifications	AT406A	AT406AV
Description	6" Palm Sander	6" Palm Sander
Recommended Air Pressure, PSIG (kPa)	90 (620)	90 (620)
Air Consumption, Free Speed, CFM (SCFM) [l/min]	5 (36) [141.6]	5 (36) [141.6]
Horsepower	—	—
Free Speed, RPM	10,000	10,000
Sound Level, Free Speed, dBA	83	83
Spindle Thread	5/16"-18UNF	5/16"-18 UNF
Pad/Disc Size, Diameter, inches (mm)	6 (152)	6 (152)
Air Inlet Thread Size	1/4"-18NPT	1/4"-18 NPT
Recommended Hose Size, inches (mm)	5/16 (8) ID Min.	5/16 (8) ID Min.
Overall Length, inches (mm)	4.8 (122)	4.8 (122)
Replacement Pad/Disc	AT406-42	AT406-42
Replacement Pad/VELCRO® (optional)	AT406-56	AT406-56



WARNING

- Do not use sanding discs or accessories above their maximum rated RPM.
- Read additional safety precautions on pages M1 to M4.



Power Tools, Air Sanders and Polishers

Random Orbital Ultra Lite

All PS305A/PS306A Series Sanders include a 5" or 6" non-vacuum PSA Backing Pad.
See replacement backing pads on page 235. EU/CE - DE, ES, FR, IT, NL, UK - all models.

Specifications	PS305A	PS306A
Description	5" Sander	6" Sander
Recommended Air Pressure, PSIG (kPa)	90 (620)	90 (620)
Air Consumption, Free Speed, CFM (SCFM) [l/Min]	3.5 (14) [99.11]	3.5 (14) [99.11]
Horsepower	.25	.25
Free Speed, RPM	10,000	10,000
Sound Level, Free Speed, dBA	78	78
Pad/Disc Size, Diameter, inches (mm)	5 (127)	6 (152)
Spindle Thread, inches	5/16"-24 UNC	5/16"-24 UNC
Air Inlet Thread Size	1/4"-18 NPT	1/4"-18 NPT
Recommended Hose Size, inches (mm)	3/8 (10) ID min.	3/8 (10) ID min.
Height, inches (mm)	3.6 (90)	3.6 (90)
Orbit Diameter, inches (mm)	.187 (4.8)	.187 (4.8)
Replacement Pad/PSA Non-Vacuum (included)	PS305-1AH	PS306-1AH
Replacement Pad/PSA Vacuum (optional)	PS305V-1AH	PS306V-1AH
Replacement Pad/VELCRO® Vacuum (optional)	PS305V-2H	PS306V-2H
Replacement Pad/VELCRO® (optional)	PS305-2H	PS306-2H



Random Orbital Ultra Lite Air Sander Kits

PS305AVV/PS306AVV/PS306HVV models include self-contained Venturi Vacuum system complete with vacuum hose and bag.

PS305AV Kit. Includes:

- PS305A Sander with 5" Pad
- PS305V-1AH 5" PSA Vacuum Backing Pad
- PSVKIT Vacuum Connection Kit.

PS305AVV Kit. Same as above except kit is PSVVKIT Venturi Vacuum Kit.

PS306AV Kit. Includes:

- PS306A Sander with 6" Pad
- PS306V-1AH 6" PSA Vacuum Backing Pad
- PSVKIT Vacuum Connection Kit.

PS306AVV Kit. Same as above except kit is PSVVKIT Venturi Vacuum Kit.

PS306HV Kit. Includes:

- PS306A Sander with 6" Pad
- PS306V-2H 6" VELCRO® Vacuum Backing Pad
- PSVKIT Vacuum Connection Kit.

PS306HVV Kit. Same as above except kit is PSVVKIT Venturi Vacuum Kit.

PSF306
6" Random Orbital Sander



Random Orbital Ultra Lite Finishing Sanders

Ideal for final sanding. Delivers the ultimate, precise, smooth finish. CE conformity.
All PSF305/PSF306 Series Sanders include a 5" or 6" non-vacuum PSA Backing Pad.
See replacement backing pads on page 235.

Specifications	PSF305	PSF306
Description	5" Sander	6" Sander
Recommended Air Pressure, PSIG (kPa)	90 (620)	90 (620)
Air Consumption, Free Speed, CFM (SCFM) [l/Min]	2.3 (16) [65.13]	2.3 (16) [65.13]
Horsepower	.25	.25
Free Speed, RPM	12,000	12,000
Sound Level, Free Speed, dBA	78	78
Pad/Disc Size, Diameter, inches (mm)	5 (127)	6 (152)
Spindle Thread, inches	5/16"-24 UNC	5/16"-24 UNC
Air Inlet Thread Size	1/4"-18 NPT	1/4"-18 NPT
Recommended Hose Size, inches (mm)	3/8 (10) ID min.	3/8 (10) ID min.
Height, inches (mm)	3.6 (90)	3.6 (90)
Weight, lbs (kg)	5.26 (2.4)	5.26 (2.4)
Orbit Diameter, inches (mm)	.094 (2.4)	.094 (2.4)
Replacement Pad/PSA Non-Vacuum (included)	PS305-1AH	PS306-1AH
Replacement Pad/PSA Vacuum (optional)	PS305V-1AH	PS306V-1AH
Replacement Pad/VELCRO® Vacuum (optional)	PS306V-2H	PS306V-2H
Replacement Pad/VELCRO® (optional)	PS305-2H	PS306-2H

Random Orbital Ultra Lite Air Sander Finishing Kits

PSF305VV/PSF306VV models include self-contained Venturi Vacuum system complete with vacuum hose and bag.

PSF305V Kit. Includes:

- PSF305 Sander with 5" Pad
- PS305V-1AH 5" PSA Vacuum Backing Pad
- PSVKIT Vacuum Connection Kit.

PSF305VV Kit. Same as above except kit is PSVVKIT Venturi Vacuum Kit.

PSF306V Kit. Includes:

- PSF306 Sander with 6" Pad
- PS306V-1AH 6" PSA Vacuum Backing Pad
- PSVKIT Vacuum Connection Kit.

PSF306VV Kit. Same as above except kit is PSVVKIT Venturi Vacuum Kit.

Sanders and Polishers Power Tools, Air



AT465
5" Compact Angle Sander



AT450
7" Heavy Duty Angle Sander

AT460
7" Heavy Duty Vertical Sander



Angle Sanders

Specifications	AT465	AT450	AT460
Description	5" Angle	7" Angle	7" Vertical
Recommended Air Pressure, PSIG (kPa)	90 (620)	90 (620)	90 (620)
Air Consumption, Free Speed, CFM (SCFM) [l/Min]	4.8 (34) [135.9]	4.8 (34) [135.9]	4.3 (31) [121.8]
Horsepower	.8	1.0	—
Free Speed, RPM	7,000	5,100	4,500
Sound Level, Free Speed, dBA	84	84	83
Pad/Disc Size, Diameter, inches (mm)	5" Dia (127mm)	7" Dia (178mm)	7" Dia (178mm)
Spindle Thread, inches	5/8"-11 UNC	5/8"-11 UNC	5/8"-11 UNC
Air Inlet Thread Size	1/4"-18 NPT	1/4"-18 NPT	1/4"-18 NPT
Recommended Hose Size, inches (mm)	3/8 (10) ID min.	3/8 (10) ID min.	3/8 (10) ID min.
Overall Length, inches (mm)	9.75 (248)	15.75 (410)	—
Height, inches (mm)	4 (102)	4 (102)	7.5 (190)
Spanner Wrench (optional)	—	AT450-50	AT450-50

PS100A

6" Dual Action Finishing Sander

Choose random action or fixed sanding patterns for all types of body repair work. U.S. Patents are 4,879,847, 4,898,524, and 4,903,944. U.S. Design Patent D324,800.

• EU/CE - DE, ES, FR, IT, NL, UK.



AT400C

6" Dual Action Sander

Dual rotary orbit reduces the severity of abrasive grinding marks making this an excellent finishing tool. Double keyed rotor shaft for longer tool life.

• EU/CE - DE, ES, FR, IT, NL, UK.



AT411A

6" Dual Action Sander

For fine sanding operations and swirl-free finishing.

• EU/CE - DE, ES, FR, IT, NL, UK.



Dual Action Sanders

Specifications	PS100A	AT400C	AT411A	AT402
Description	6" Sander	6" Sander	6" Sander	3" Micro Sander
Recommended Air Pressure, PSIG (kPa)	60 (410)	60 (410)	90 (620)	90 (620)
Air Consumption, Free Speed, CFM (SCFM) [l/Min]	3.4 (17) [96.28]	2.1 (11) [59.47]	5.0 (36) [141.6]	2.0 (14) [56.63]
Horsepower	.2	.25	.50	—
Free Speed, RPM	9,000	10,000	10,000	15,000
Sound Level, Free Speed, dBA	83	93	79	82
Pad/Disc Size, Diameter, inches (mm)	6 (152)	6 (150)	6 (150)	3 (76)
Spindle Thread, inches	5/16"-24 UNC	5/16"-18 UNC	5/16"-18 UNC	—
Air Inlet Thread Size	1/4"-18 NPT	1/4"-18 NPT	1/4"-18 NPT	1/4"-18 NPT
Recommended Hose Size, inches (mm)	3/8 (10) ID min.	3/8 (10) ID min.	3/8 (10) ID min.	3/8 (10) ID min.
Overall Length, inches (mm)	11.5 (292)	10.2 (260)	8 (203)	4.37 (111)
Weight, lbs (kg)	—	4.9 (2.2)	4.7 (1.8)	2 (.8)
Orbit Diameter, inches (mm)	—	—	—	.118 (3)
Backing Plate (optional)	—	AT400-48	—	—
Replacement Pad, (optional)	PS306-1AH	AT411A-1	AT411A-1	—
Replacement Pad/HOOKIT® (optional)	MMM05756	—	—	MMM05769

AT402

3" Micro Dual Action Sander

Micro-sized sander for fine finishing in tight areas.

• EU/CE - DE, ES, FR, IT, NL, UK.



WARNING

- Do not use sanding discs or accessories above their maximum rated RPM.
- Read additional safety precautions on pages M1 to M4.



Power Tools, Air Sanders and Polishers

AT425D 5" Disc Sander

U.S. Design Patent D289,136 applies.
• EU/CE - DE, ES, FR, IT, NL, UK.



Disc Sander

Specifications	AT425D
Description	5" Sander
Recommended Air Pressure, PSIG (kPa)	90 (620)
Air Consumption, Free Speed, CFM (SCFM) [l/min]	4.5 (32) [118.9]
Horsepower	.3
Free Speed, RPM	14,000
Sound Level, Free Speed, dBA	88
Spindle Thread, inches	7/16"-20 UNC
Pad/Disc Size, Diameter, inches (mm)	5 (127)
Air Inlet Thread Size	1/4"-18 NPT
Recommended Hose Size, inches (mm)	5/16 (8) ID min.
Overall Length, inches (mm)	4.6 (118)
3" Replacement Pad (optional)	AT425A25
4" Replacement Pad (optional)	AT425A26

AT475A Heavy Duty In-Line Sander

5/8" stroke. Minimal vibration

• EU/CE - DE, ES, FR, IT, NL, UK.



In-Line Sander

Specifications	AT475A
Description	In-line
Recommended Air Pressure, PSIG (kPa)	90 (620)
Air Consumption, Free Speed, CFM (SCFM) [l/min]	2.3 (16) [65.13]
Free Speed	1,800 osc/min
Sound Level, Free Speed, dBA	87
Pad/Disc Size, Diameter, inches (mm)	2 3/4" x 17 1/2"
Air Inlet Thread Size	1/4"-18 NPT
Recommended Hose Size, inches (mm)	3/8 (10) ID min.
Overall Length, inches (mm)	16 (406)
Height, inches (mm)	4.75 (121)
Post Pad Sander Shoe (optional)	BFS70

AT435A Jitterbug Sander

Features top-mounted throttle.

• EU/CE - DE, ES, FR, IT, NL, UK.



Jitterbug Sanders

Specifications	AT435A	AT407A	AT407AV
Description	Jitterbug Sander	Mini Sander	Mini Sander
Recommended Air Pressure, PSIG (kPa)	90 (620)	90 (620)	90 (620)
Air Consumption, Free Speed, CFM (SCFM) [l/min]	3.0 (21) [84.95]	5 (36) [141.6]	5 (36) [141.6]
Free Speed	8,000 osc/min	10,000 osc./minute	10,000 osc./minute
Sound Level, Free Speed, dBA	84	83	83
Pad Size, inches (mm)	3 3/4" x 9"	2 3/4" x 6 (70 x 152)	2 3/4" x 6 (70 x 152)
Air Inlet Thread Size	1/4"-18 NPT	1/4"-18 NPT	1/4"-18 NPT
Recommended Hose Size, inches (mm)	3/8 (10) ID min.	3/8 (10) ID min.	3/8 (10) ID min.
Overall Length, inches (mm)	6.75 (171)	6 (152)	6 (152)
Height, inches (mm)	4.5 (115)	4.3 (110)	4.3 (110)
Weight, lbs (kg)	4.6 (1.7)	2.49 (1.13)	2.49 (1.13)
Replacement Pad/Disc	—	AT407-9	AT407-9
Pad/VELCRO® (optional)	—	AT407-16	AT407-16

AT460P 7" Heavy Duty Vertical Polisher

Removable side handle.

• EU/CE - DE, ES, FR, IT, NL, UK.



AT450P 7" Heavy Duty Angle Polisher

Removable side handle.

• EU/CE - DE, ES, FR, IT, NL, UK.



Polishers

Specifications	AT450P	AT460P	AT403P
Description	7" Angle	7" Vertical	3" Micro
Recommended Air Pressure, PSIG (kPa)	90 (620)	90 (620)	90 (620)
Air Consumption, Free Speed, CFM (SCFM) [l/min]	4.8 (34) [135.9]	4.3 (31) [121.8]	3.5 (25) [99.11]
Air Consumption, Working, CFM (SCFM) [l/min]	4.3 (31) [121.8]	4.1 (29) [116.1]	—
Horsepower	1	—	.3
Free Speed, RPM	2,600	2,400	5,500
Sound Level, Free Speed, dBA	84	83	82
Pad/Disc Size, Diameter, inches (mm)	7 (178)	7 (178)	3 (76)
Spindle Thread, inches	5/8"-11 UNC	5/8"-11 UNC	5/16"-24 UNF
Air Inlet Thread Size	1/4"-18 NPT	1/4"-18 NPT	1/4"-18 NPT
Recommended Hose Size, inches (mm)	3/8 (10) ID min.	3/8 (10) ID min.	3/8 (10) ID min.
Overall Length, inches (mm)	15.75 (410)	—	4.6 (118)
Height, inches (mm)	4 (102)	7.5 (190)	5.5 (140)
Spanner Wrench (optional)	—	—	—
Compounding/Buffing Pad (included)	—	—	MMM85078
Replacement Pad/Disc	—	—	MMMO5769

AT403P 3" Micro Polisher

• EU/CE - DE, ES, FR, IT, NL, UK.



Polisher Accessories

POLISHB8B Buffing Pad. 8" yellow buffing pad for use with electric and pneumatic power tools with 5/8"-11 thread. Use with POLISH5 Buffing Compound, page E139.

POLISHD8B Detailing Pad. 8" white detailing pad for use with electric and pneumatic power tools with 5/8"-11 thread. Use with POLISH1 Professional Cleaner, page E139.

POLISHW8A Wool Buffing Pad. Ideal for cutting, buffing, and removal of scratches and paint imperfections. 1 1/2" wool pile last longer than standard wool pads. Washable for easy clean-up. Use for base and clear coats, acrylic, enamel, lacquer, urethane, fiberglass, plastics and other applications. Can be used with AT450P, AT460P, ET1460, ET1480, ET1490 and ETB1570 Polishers.

YA7341 Bonnet Cleaning Tool. Run the spur wheels over your buffing pad or bonnet and it will work to dislodge and remove dry, hardened polish.

AT450-50 Spanner Wrench. Used on AT450P and AT460P Polishers.

AT450RK Tune-up Kit. Includes most needed parts for tuning up AT450 Disc Sander. Service instructions are included with the kit.

YA7341



POLISHB8B



Sanding and Polishing Kits



DGK500 Polishing Kit. Professional selection of polishing discs and pads for general polishing work. Use with AT403P Micro Polisher. PB129 Plastic Case stores polishing discs and pads plus selected air tool and easily fits in 2" drawer of Snap-on® tool storage units. Air tool not included with kit. Kit includes:

3M® HOOKIT® film discs and pads, MMM00907 (5 ea.), MMM05726 (3 ea.), MMM05769 (1 ea.), MMM05771 (1 ea.), MMM07472 (3 ea.) and MMM85078 (3 ea.).

Stock No.	Description	Diameter, inches	Grade/Color	Application
MMM00907	3M® HOOKIT® Finishing Film Disc	3	P1500	Minor defect removal - clear coats
MMM05726	Perfect-It® HOOKIT® Foam Polishing Pad	3	—	For high gloss finishes
MMM05769	3M® HOOKIT® Disc Pad	3	—	Hard rubber back-up pad for HOOKIT® discs
MMM05771	3M® HOOKIT® Soft Interface Pad	3	—	Use with Finishing Film discs for defect removal
MMM07472	3M® Scotch-Brite™ Ultra-Fine Scuffing Disc	3	Gray	Surface top coats
MMM85078	3M® Finesse-It® Knit Buffing Pad	3	—	Use with compound to remove fine defects

Sanding Pads / Backing Pads / Vacuum Kits

BFS70 Straight-Line Sander Shoe. Fits all straight-line sanders including the AT475A. Unique "post pad" bottom design helps reduce loading of sanded materials. Vinyl foam pad is bonded to base. Uses 17" x 2 3/4" sandpaper sheets. Measures 15 3/4" x 2 5/8".

PS20016B. Sander Pad for PS200.

PSVKIT Vacuum Connection Kit.

Kit connects PS305A/306A Sanders and PSF305/PSF306 Sanders to external vacuum source.

PSVVKIT Venturi Vacuum Kit.

Kit connects PS305A/306A Sanders and PSF305/PSF306 Sanders to external vacuum source.

BFS70



Backing Pads

Stock No.	Description	Diameter, inches	Application
PS305-1AH	PSA Backing Pad	5	PS305A/PSF305
PS305V-1AH	PSA Vacuum Backing Pad	5	PS305A/PSF305
PS305-2H	VELCRO® Backing Pad	5	PS305A/PSF305
PS305V-2H	VELCRO® Vacuum Backing Pad	5	PS305A/PSF305
PS306-1AH	PSA Backing Pad	6	PS306A/PSF306/PS100A
PS306V-1AH	PSA Vacuum Backing Pad	6	PS306A/PSF306
PS306-2H	VELCRO® Backing Pad	6	PS306A/PSF306
PS306V-2H	VELCRO® Vacuum Backing Pad	6	PS306A/PSF306

BFS190



Backing Plates

BFS103 Backing Plate. 3" diameter, 20,000 RPM maximum speed.

BFS104 Backing Plate. 4" diameter, 20,000 RPM maximum speed.

BFS105 Backing Plate. 5" diameter, 20,000 RPM maximum speed.

BFS107 Backing Plate. 7" diameter, 6000 RPM maximum speed.

BFS130 Backing Plate Set. Smaller diameter version of BFS190.

BFS190 Backing Plate Set. Backing plates are constructed of high-strength epoxy fiberglass.

*All backing plates have 7/8" diameter arbor hole.



BFS130

Backing Plates



WARNING

- Do not operate without guard.
- Do not use sanding discs or accessories above their maximum rated RPM.
- Do not use grinding wheels with the AT425D Compact Disc sander.
- Read additional safety precautions on pages M1 to M4.



Power Tools, Air Die Grinders

PT Series Features:

- Tackle virtually all material removal jobs with ease and professional results.
- Ergonomic Style Handle is molded and contoured to comfortably fit the hand. Helps to absorb vibration while insulating against the cold.
- Adjustable Rear Exhaust Outlet allows adjustment of exhaust away from the work area while keeping material removal away from operator's face.
- Thermally Balanced Air Motor acts as internal cooling system to protect moving parts. Efficiently routes air to control surface temperature of tool. Reduces motor vibration and collects runout.

- Built-in 10 Position Power/Speed Regulator precisely matches tool speed to job requirements.
- Easy Bit Changing using standard wrenches.
- Safety-Style Variable Speed Paddle Trigger helps prevent accidental starting of tool.
- Simple Modular Design allows for ease of service.
- Low dBA rating reduces fatigue from noise.
- EU/CE - DE, ES, FR, IT, NL, UK - all models.

PT200R Die Grinder

Tackle virtually all material removal jobs with ease and professional results.



PT200LR Extended Die Grinder

Handles a wide scope of material removal jobs same as the PT200R, but features an extended design for reach into difficult access areas.



PT100 Mini Die Grinder



Specifications	PT200R	PT200LR	PT100
Description	Die Grinder	Extended Die Grinder	Mini Die Grinder
Recommended Air Pressure, PSIG (kPa)	90 (620)	90 (620)	90 (620)
Air Consumption, Free Speed, CFM (SCFM) [l/min]	2.9 (21) [82.12]	2.9 (21) [82.12]	1.57 (10.4) [44.46]
Air Consumption, Working, CFM (SCFM) [l/min]	2.7 (19) [76.45]	2.7 (19) [76.45]	1.4 (9) [39.64]
Horsepower	.45	.45	—
Free Speed, RPM	22,000	22,000	25,000
Sound Level, Free Speed, dBA	85	85	85
Sound Level, Working, dBA	84	84	84
Air Inlet Thread Size	1/4"-18 NPT	1/4"-18 NPT	1/4"-18 NPT
Recommended Hose Size, inches (mm)	3/8 (9.5) ID Min.	3/8 (9.5) ID Min.	1/4 (6.35) ID Min.
Collet Size, inches	1/4	1/4	1/4
Overall Length, inches (mm)	6.7 (170)	10.6 (269)	5.87 (149)

AT105 Die Grinder

Intended for most standard deburring operations.



AT115 Die Grinder

Intended for most standard deburring operations.



AT135 Mini Die Grinder



Specifications	AT105	AT115	AT135
Description	Die Grinder	Medium Die Grinder	Mini Die Grinder
Recommended Air Pressure, PSIG (kPa)	90 (620)	90 (620)	90 (620)
Horsepower	.2	.2	.2
Air Consumption, Free Speed, CFM (SCFM) [l/min]	3.5 (25) [99.11]	3.5 (25) [99.11]	2.6 (19) [73.62]
Free Speed, RPM	22,000	22,000	26,000
Sound Level, Free Speed, dBA	91	91	86
Air Inlet Thread Size	1/4"-18 NPT	1/4"-18 NPT	1/4"-18 NPT
Recommended Hose Size, inches (mm)	3/8 (10) ID min.	3/8 (10) ID min.	3/8 (10) ID min.
Overall Length, inches (mm)	6.5 (165)	6.5 (165)	5.25 (133)
Collet Size, inches	1/4	1/4	1/4
Optional Collet (1/8")	AT110-32	AT110-32	AT110-32

Angle Head Die Grinders Power Tools, Air

PT110

Mini Angle-Head Die Grinder

• EU/CE - DE, ES, FR, IT, NL, UK.



AT118

Mini Angle-Head Die Grinder

Compact mini-design with 90° angled head for easy access. Ergonomic handle grip for increased comfort and control.

• EU/CE - DE, ES, FR, IT, NL, UK.



AT401

Micro Surface Prep Tool

• EU/CE - DE, ES, FR, IT, NL, UK.



PT210R

Mini Angle-Head Die Grinder

A handy right-angle die grinder that handles many hard to reach applications.

• EU/CE - DE, ES, FR, IT, NL, UK.



AT109 Mini Angle-Head Die Grinder

Compact mini-design with 90° angled head for easy access. 1/4" collet.

• EU/CE - DE, ES, FR, IT, NL, UK.



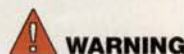
AT107A

Right Angle Die Grinder

- Clean dies, rotors, backing plates and brake pad mounts
- Clean gasket material from surface
- Grind dies and valve seats
- Dress welds and enlarge holes
- EU/CE - DE, ES, FR, IT, NL, UK.



Specifications	PT210R	PT110	AT109	AT118	AT107A	AT401
Description	Right Angle Die Grinder	Mini Right Angle Die Grinder	Mini Right Angle Die Grinder	Mini Right Angle Die Grinder	Right Angle Die Grinder	Micro Surface Prep Tool
Recommended Air Pressure, PSIG (kPa)	90 (620)	90 (620)	90 (620)	90 (620)	90 (620)	90 (620)
Air Consumption, Free Speed, CFM (SCFM) [l/min]	3.2 (23) [90.61]	1.6 (10.7) [45.31]	2.1 (15) [59.47]	2.1 (15) [59.47]	4.0 (28) [13.3]	2.5 (18) [70.79]
Air Consumption, Working, CFM (SCFM) [l/min]	3.0 (20) [84.95]	1.4 (9.1) [39.64]	—	—	—	—
Horsepower	.45	—	.2	.2	.4	—
Free Speed, RPM	22,000	25,000	20,000	20,000	15,000	15,000
Sound Level, Free Speed, dBA	85	85	93	93	83.1	82
Sound Level, Working, dBA	84	84	—	—	—	—
Air Inlet Thread Size	1/4"-18 NPT	1/4"-18 NPT	1/4"-18 NPT	1/4"-18 NPT	1/4"-18 NPT	1/4"-18 NPT
Recommended Hose Size, inches (mm)	3/8 (9.5) ID Min.	1/4 (6.35) ID Min.	5/16 (8) ID Min.	5/16 (8) ID Min.	5/16 (8)	5/16 (8) ID Min.
Collet Size, inches	1/4	1/4	1/4	1/4	1/4	1/4
Overall Length, inches (mm)	6.6 (165)	5.65 (144)	5.50 (140)	5.50 (140)	6.2 (158)	3.8 (96)
Optional Items						
1/4" Shank Grinding Burr Set	VWB800C	—	—	—	—	—
1/8" Shank Grinding Burr Set	VWB700A	—	—	—	—	—
1/4" Shank Abrasive Wheel Set	VWB650	—	—	—	—	—
1/8" Shank Abrasive Wheel Set	VWB600	—	—	—	—	—
Replacement ROLOC® 2" Pads, GR50, 25/box	—	—	—	—	—	MMM01396
Replacement ROLOC® 3" Pads, GR36, 25/box	—	—	—	—	—	MMM01407



WARNING

- Do not use sanding discs or accessories above their maximum rated RPM.
- Do not operate without guard.
- Read additional safety precautions on pages M1 to M4.



Straight 1/4" Chuck Die Grinder

Specifications	PT220R
Description	1/4" Chuck Die Grinder
Recommended Air Pressure, PSIG (kPa)	90 (620)
Air Consumption, Free Speed, CFM (SCFM) [l/min]	2.9 (21) [82.12]
Air Consumption, Working, CFM (SCFM) [l/min]	2.7 (19) [76.45]
Horsepower	.45
Free Speed, RPM	22,000
Sound Level, Free Speed, dBA	85
Sound Level, Working, dBA	84
Air Inlet Thread Size	1/4"-18 NPT
Recommended Hose Size, inches (mm)	3/8 (9.5) ID Min.
Overall Length, inches (mm)	7.2 (184)
Optional Items	
1/4" Shank Grinding Burr Set	VWB800C
1/8" Shank Grinding Burr Set	VWB700A
1/4" Shank Abrasive Wheel Set	VWB650
1/8" Shank Abrasive Wheel Set	VWB600

PT220R 1/4" Chuck Die Grinder

Can be used with 1/4" and 1/8" diameter shank accessories. Use for easy cleaning of dies, rotors, backing plates, brake pads, mounts plus many other applications.

• EU/CE - DE, ES, FR, IT, NL, UK.



AT1054B



Die Grinder Pencil - 1/8" Chuck

Lightweight pencil die grinder is ideal for getting in tight spaces. Use for easy cleaning of dies, rotors, backing plates, brake pads, mounts plus many other applications. Lightweight for ease of use. Twist-Action Variable Speed Control. Five (5) ft. (1.5M) long protected air hose. Must be used with most 1/8" shank grinding accessories rated higher than RPM below.

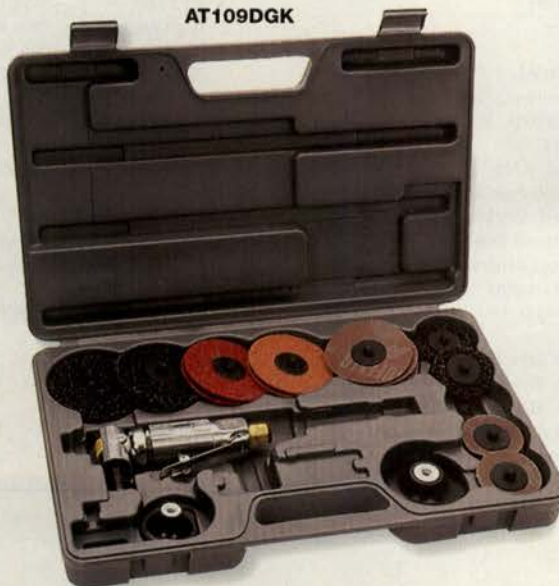
Specifications	AT1054B	AT1070A
Collet Size, inches	1/8	1/8
Recommended Air Pressure, PSIG (kPa)	90 (620)	90 (620)
Air Consumption, Free Speed, CFM (SCFM) [l/min]	0.85 (6) [24]	1 (7) [28.3]
Free Speed, RPM	54,000	70,000
Sound Pressure Level, dBA	72	72
Sound Level, Free Speed, dBA	84	84
Vibration Level	2.0m/sec ²	2.0m/sec ²
Air Inlet Thread Size	1/4"-18 NPT	1/4"-18 NPT
Recommended Hose Size, inches (mm)	5/16 (8)	5/16 (8)
Overall Length, inches (mm)	5.32 (135)	5.32 (135)
Weight, lbs. (kg)	0.55 (0.25)	0.55 (0.25)

Die Grinder Accessory Kit

AT109DGK Die Grinder Accessory Kit

Ideal for accessing tough-to-reach areas. Use to clean dies, rotors, backing plates and brake pad mounts, clean gasket material from surfaces, grind dies and valve seats, dress welds and enlarge holes. Includes AT109 Mini Angle Die Grinder plus 2" (50.8mm) ROLOC® pad (1 ea.), 2" (50.8mm) Coarse discs (2 ea.), 2" (50.8mm) Medium discs (2 ea.), 2" (50.8mm) 24 grit discs (2 ea.), 2" (50.8mm) 36 grit discs (2 ea.), 2" (50.8mm) Crud discs (2 ea.), 3" (76.2mm) ROLOC® pad (1 ea.), 3" (76.2mm) 50 grit discs (2 ea.), 3" (76.2mm) 120 grit discs (2 ea.), 3" (76.2mm) Crud discs (2 ea.), 1/4" Shank Adapter (1 ea.) and spanner wrenches (2 ea.) in plastic storage case.

AT109DGK



Cut-off Tools

PT250R 3" Cutter

A compact and easy to use cutter with a multitude of applications. Cutting wheel guard rotates to any safe and convenient position.

• EU/CE - DE, ES, FR, IT, NL, UK.



AT156A 3" Cut-Off Tool

Efficiently handles most standard sheet metal cutting operations.

• EU/CE - DE, ES, FR, IT, NL, UK.



Cut-off Tools

Specifications	PT250R	AT156A	AT157A
Description	3" Cutter	3" Cut-Off Tool	3" Cut-Off Tool
Recommended Air Pressure, PSIG (kPa)	90 (620)	90 (620)	90 (620)
Air Consumption, Free Speed, CFM (SCFM) [l/min]	2.9 (21) [82.12]	10 (72) [283.1]	10 (72) [283.1]
Air Consumption, Working, CFM (SCFM) [l/min]	2.7 (19) [76.45]	—	—
Horsepower	.45	.2	.2
Free Speed, RPM	22,000	21,000 RPM	21,000
Sound Level, Free Speed, dBA	85	89	89
Sound Level, Working, dBA	84	—	—
Cutter Wheel Diameter, inches	3	3	3
Air Inlet Thread Size	1/4"-18 NPT	1/4"-18 NPT	1/4"-18 NPT
Recommended Hose Size, inches (mm)	3/8 (9.5) ID Min.	5/16 (8) ID Min.	5/16 (8) ID Min.
Overall Length, inches (mm)	7.2 (183)	7.25 (184)	7.25 (184)
Weight, lbs. (kg)	—	1.74 (0.79)	1.74 (0.79)
3" x 1/16" x 3/8" 36-grit Cutter Wheel (qty. 6) (incl.)	AT150-20A	—	—
Optional Items			
3" x 1/32" x 3/8" 54-grit Cutter Wheel (qty. 6)	AT150C-28A	—	—
3" x 3/32" x 3/8" 54-grit Cutter Wheel (qty. 6)	AT150C-29A	—	—

AT157A 3" Cut-Off Tool

Use for cutting operations on front wheel drive bearings, exhaust pipes and clamps, quarter panels, swaybar links, brake cables and bolts and studs.

• EU/CE - DE, ES, FR, IT, NL, UK.



Grinder

AT415A

4 1/2" Compact Grinder

• EU/CE - DE, ES, FR, IT, NL, UK.



Specifications	AT415A
Description	4 1/2" Compact Grinder
Recommended Air Pressure, PSIG (kPa)	90 (620)
Air Consumption, Free Speed, CFM (SCFM) [l/min]	3.3 (23)
Air Consumption, Working, CFM (SCFM) [l/min]	3.2 (23)
Free Speed	12,000 RPM
Sound Level, Free Speed, dBA	87
Disc Size, Diameter, inches (mm)	4 1/2 (102)
Air Inlet Thread Size	1/4"-18 NPT
Recommended Hose Size, inches (mm)	5/16 (8) ID Min.
Overall Length, inches (mm)	10 (254)
Grinding Disc Set (incl.)	AT415A51

Cutter and Grinder Accessories

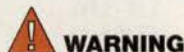
AT105-30 Spanner Wrench. For AT156 Cut-Off Tool.

AT415-20B Grinding Disc. For AT415A Grinder. 4" diameter x 3/16" thick with 5/8" arbor hole. Maximum Rated RPM: 12,000. Package of five discs.

AT415A51 Grinding Disc. For AT415A Grinder, 4 1/2" diameter x 3/16" thick with 7/8" arbor hole. Maximum Rated RPM: 12,000. Package of five discs.

AT415A51

Grinding Discs



WARNING

- Do not use sanding discs or accessories above their maximum rated RPM.
- Do not operate without guard.
- Read additional safety precautions on pages M1 to M4.



Power Tools, Air Specialty Air Tools

Reciprocating Saws / Nibblers

Specifications	AT192	AT193	AT180
Description	High Speed	Low Speed	Nibbler
Recommended Air Pressure, PSIG (kPa)	90 (620)	90 (620)	90 (620)
Air Consumption, Free Speed, CFM (SCFM) [l/min]	1.0 (7) [28.3]	1.0 (7) [28.3]	3.6 (26) [101.9]
Sound Power Level, dBA	94.0	91.0	90
Blade Strokes Per Minute	11,000	5,700	—
Free Speed Strokes per Minute	—	—	2,000 strokes/min.
Air Inlet Thread Size	1/4"-18 NPT	1/4"-18 NPT	1/4"-18 NPT
Recommended Hose Size, inches (mm)	5/16 (8) ID Min.	5/16 (8)	5/16 (8) ID Min.
Overall Length, inches	9.25 (235)	9.06 (230.2)	7 (178)
4mm Blade Changing Wrench (incl.)	AT190-26	—	—
Standard Punch (incl.)	—	—	AT180-8*

* Width/Depth of cut 11/32" (4.37mm).

Optional Items	AT192	AT193	AT180
Bi-Metal Blade, 18TPI, 2 3/4" long (qty. 5)	AT190-39	AT190-39	—
Bi-Metal Blade, 24TPI, 2 3/4" long (qty. 5)	AT190-40	AT190-40	—
Bi-Metal Blade, 32TPI, 2 3/4" long (qty. 5)	AT190-41	AT190-41	—
Bi-Metal Blade, 18TPI, 4" long (qty. 5)	AT190-42A	AT190-42A	—
Bi-Metal Blade, 24TPI, 4" long (qty. 5)	AT190-43A	AT190-43A	—
Bi-Metal Blade, 32TPI, 4" long (qty. 5)	AT190-44A	AT190-44A	—
Bi-Metal Blade, 18TPI, 5 1/8" long (qty. 5)	HS14X1	HS14X1	—
Bi-Metal Blade, 24TPI, 5 1/8" long (qty. 5)	HS18X1	HS18X1	—
Bi-Metal Blade, 32TPI, 5 1/8" long (qty. 5)	HS24X1	HS24X1	—
Ion-Plated Punch	—	—	AT180-30

* Better for tougher steels; stays sharper longer.



AT192 Reciprocating Saw
• EU/CE - DE, ES, FR, IT, NL, UK.



AT180 Nibbler
• EU/CE - DE, ES, FR, IT, NL, UK.

AT185 Dual Punch Tool.
• EU/CE - DE, ES, FR, IT, NL, UK.



Dual Punch Tool

Use to make 3/16" and 5/16" punches in light sheet metal. Head swivels 360° for maximum versatility.

Specifications	AT185
Recommended Air Pressure, PSIG (kPa)	90 (620)
Air Inlet Thread Size	1/4"-18 NPT
Recommended Hose Size, inches (mm)	5/16 (8) ID Min.
Length, inches (mm)	9.25 (235)
Weight, lbs. (kg)	2.64 (1.2)



AT184 Spotweld Drill
• EU/CE - DE, ES, FR, IT, NL, UK.

Spotweld Drill

Twist depth control collar allows precise setting of drilling depth up to 1/4". Two speed trigger for low or high speeds. Pistol grip design. Includes one 5/16" (8mm) drill bit and removable clamp arm..

Specifications	AT184
Description	Spotweld Drill
Chuck Range, Diameter, inches (mm)	5/16 (8) ID
Bit Capacity	1/4" - 25/64"
Recommended Air Pressure, PSIG (kPa)	90 (620)
Air Consumption, Free Speed, CFM (SCFM) [l/min]	8.4 (60) [237.9]
Free Speed, RPM	1,800
Sound Level, Free Speed, dBA	84
Air Inlet Thread Size	1/4"-18 NPT
Recommended Hose Size, inches (mm)	3/8 (10)
Overall Length, inches (mm)	7.9 (200)
Weight, lbs. (kg)	3.09 (1.40)
Spotweld Drill Bit (6.5 mm) (optional)	AT183-43
Spotweld Drill Bit (8 mm) (included)	AT183-50
Spotweld Drill Bit (10 mm) (optional)	AT183-51
Clearance Arm (6") (optional)	AT184-26



AT195 Shears
Trims, outlines and shears.
Removable Brass Filter screen.
• EU/CE - DE, ES, FR, IT, NL, UK.

Shears

Specifications	AT195
Description	Shears
Recommended Air Pressure, PSIG (kPa)	90 (620)
Air Consumption, Average, CFM (SCFM) [l/min]	4.0 (28) [113.3]
Horsepower	.6
Sound Level, Free Speed, dBA	88.1
Sound Level, Working, dBA	99.6
Cutting Capacity, inches (mm)	3/64" (1.2 mm)
Width of Cut, inches (mm)	7/32 (5.6)
Cutting Speed per Minute	15 ft. (4.572m)
Strokes per Minute	2500
Air Inlet Thread Size	1/4"-18 NPT
Recommended Hose Size, inches (mm)	5/16 (8) ID Min.
Overall Length, inches (mm)	10 (254)
Weight, lbs. (kg)	2.8 (1.3)

Specialty Air Tools Power Tools, Air

CRUD THUG™ Tool

Quickly remove seam sealers, rust and paint and underbody protectors. Optional rubber eraser wheel for pinstripe and graphics removal. Tool easily removes automotive "crud" without fumes, heat build-up or surface damage. Thermally-balanced Air Motor routes air between housing and liner for cooler tool temperatures and longer life.

Specifications	PT280THUG
Recommended Air Pressure, PSIG (kPa)	90 (620)
Air Consumption, Average, CFM (SCFM) [l/min]	4 (28.5) [113.3]
Free Speed, RPM	3,500
Sound Level, dBA	85
Air Inlet Thread Size	1/4"-18 NPT
Recommended Hose Size, inches (mm)	3/8 (9.5) ID Min.
Length, inches (mm)	12 (305)
Coarse Wheel (included) (4)	PT280-302MP5
Fine Wheel (included) (1)	PT280-301MP5
Rubber Eraser Wheel (optional)	PT280-303MP3
Stainless Steel Straight (optional) (1)	PT280-304
Stainless Steel Bent (optional) (1)	PT280-305



PT280THUG

PT280THUG Features:

- Planetary Gear System for increased torque.
- Ergonomic Cushion Grip insulates against cold and vibration.
- Adjustable Exhaust Outlet in rear of tool allows choice of exhaust direction.
- Ten-Position Power/Speed Regulator allows easy RPM adjustment.
- Paddle Style Trigger for precise speed control.
- EU/CE - DE, ES, FR, IT, NL, UK.

Replacement Wheels for PT280THUG

Specifications	PT280-301MP5***	PT280-302MP5***	PT280-303MP3**	PT280-304*	PT280-305*
Description	Wire Wheel (Coarse)	Wire Wheel (Fine)	Rubber Eraser Wheel	Wire Wheel (Fine)	Wire Wheel (Coarse)
Brush Diameter, inches (mm)	4.05 (103)	4.05 (103)	4.13 (105)	4.05 (103)	4.05 (103)
Brush Width, inches (mm)	.91 (23)	.91 (23)	1.18 (30)	.91 (23)	.91 (23)
Wire Diameter, inches (mm)	.028 (.7)	.019 (.5)	—	.019 (.5)	.019 (.5)
Wire Style	Bent Hardened Spring Steel	Straight Hardened Spring Steel	—	Straight Tip Stainless Steel	Bent Tip Stainless Steel
Maximum Safe Free Speed, RPM	4,000	4,000	3,500	4,000	4,000

*Stainless steel **3-Pack ***5-Pack



AT187

Engraving Pen

Mark tools and other objects to prevent theft. Use on hardened steel plate (up to HRC55), metals, glass, stone, ceramic, plastics and more. Can also be used for deburring operations plus reshaping screw or bolt heads for removal. Rugged metal housing. Knurled fingertip control. Engraving tips are sold separately. EU/CE - DE, ES, FR, IT, NL, UK.

Specifications	AT187
Recommended Air Pressure, PSIG (kPa)	90 (620)
Air Consumption, Average, CFM (SCFM) [l/min]	1.0 (7) [28.3]
Free Speed, RPM	14,000
Sound Level, dBA	90
Air Inlet Thread Size	1/4"-18 NPT
Recommended Hose Size, inches (mm)	3/8 (10) ID min.
Hose Length, inches (mm)	59 1/2 (1511)
Overall Length, inches (mm)	5 1/2 (140) without hose
Weight, lbs. (kg)	.48 (0.22)

AT187-11 Coarse Engraving Tip. For AT187.

AT187-13 Fine Engraving Tip. For AT187.

AT187-14 Medium Engraving Tip. For AT187.



AV1000

Vacuum

Ideal for vehicle media installation shops. Designed to get in tight quarters. Lightweight, balanced design. Comfortable pistol-grip handle. Rotating, removable aluminum suction tube. Multi-angle brush attachment is ideal for vehicle interiors. Zipper at bottom of bag for quick removal of debris. Built-in hang up hook at top of handle for convenient storage. EU/CE - DE, ES, FR, IT, NL, UK.

Specifications	AV1000
Recommended Air Pressure, PSIG (kPa)	90 (620)
Air Consumption, Average, CFM (SCFM) [l/min]	3 (21) [84.95]
Sound Level, Free Speed, dBA	81.2
Sound Level, Working, dBA	81.2
Air Inlet Thread Size	1/4"-18 NPT
Recommended Hose Size, inches (mm)	3/8 (10)
Bag Size, inches (mm)	8 1/2 x 6 (215.9 x 152.4)
Brush Head Size (oval), inches (mm)	1 1/2 x 2 1/4 (38.5 x 57.1)
Length (without bag), inches (mm)	16 (406)
Weight, lbs. (kg)	1.54 (0.70)



WARNING

- Do not use sanding discs or accessories above their maximum rated RPM.
- Do not operate without guard.
- Read additional safety precautions on pages M1 to M4.



Power Tools, Air Air Hammers

- Dual Elastomeric Cushion System (DEC System)—absorbs shock and vibration which reduces user fatigue.
- 30% more power, 300% less vibration.
- Phenolic (Kevlar-reinforced) Flutter Disc—strong composite disc for long life.
- Direct Multi Port Frontal Exhaust—designed to keep air and debris away from the user.
- High Grade Steel Barrel—solid high grade steel provides greater strength.
- Variable Speed Soft Elastomeric Trigger—featherability with greater control and comfort life.
- Contoured Aluminum Handle—lightweight T-handle design provides exceptional balance.



AT148A
Heavy-Duty Air Hammer
Includes quick change retainer.

- Four position Built-In Air Regulator—vary power and select the proper setting for your hammering applications.
- Air Line Filter—helps prevent foreign particles from clogging trigger mechanism.
- Power Packed Piston—delivers harder blows with a hardened steel piston for maximum impact.
- Increased Power—heavier piston with a longer stroke produces a harder hitting blow for heavy duty hammering application.
- EU/CE - DE, ES, FR, IT, NL, UK.

PH3050
Heavy-Duty Air Hammer
Not intended for light duty work.



Heavy Duty Air Hammers

Specifications	AT148A	PH3050
Recommended Air Pressure, PSIG (kPa)	90 (620)	90 (620)
Sound Level, Free Speed, dBA	100	94
Blows Per Minute	2,200	2,500
Air Inlet Thread Size	1/4"-18 NPT	1/4"-18 NPT
Recommended Hose Size, inches (mm)	5/16 (8) ID Min.	5/16 (8) ID Min.
Overall Length, inches (mm)	10.62 (270)	8.95 (229)
Vinyl Boot	—	—
Chuck Bit Size, inches/mm	.401 (10.2) shank diameter	.401 (10.2) shank diameter
Air Consumption, CFM (SCFM) [l/min]	4.0 (28) [113.3]	1.8 (13) [50.97]

PHG3050CH4 Air Hammer Set

6 Tools included:

- PH3050** Heavy Duty Air Hammer
- PH200D** Retainer Chuck
- PHG55** Flat Chisel, 3/4" wide.
- PHG57** Double Blade Panel Cutter, 3/4" wide.
- PHG59** Taper Punch, 3/16" tip.
- PHG87** Muffler Cutter, 17/32" wide.
- PB1C** Plastic Box



PHG3050CH4

Air Hammers Power Tools, Air

- Solid, Single Piece Barrel—tough, "fatigue resistant" steel provides greater strength and longer tool life.
- Variable Speed Trigger—positive low speed control and feathering ability plus smooth, progressive airflow control.
- Directed Exhaust—air is directed away from the user. Full circumference channel between housing and barrel softly disperses exhaust.
- Air Line Filter—helps prevent foreign particles from clogging trigger mechanism. Easily removable from inlet for quick cleaning.
- Replaceable Pipe Bushing Inlet with Filter Screen—keeps cross-threading from damaging the tool.

- Contoured Aluminum Handle—lightweight with a comfortable hand grip for extended use.
- Power Packed Piston—delivers harder blows for maximum impact with less vibration.
- Spring Steel Flutter Disc—outlasts fiber or composition discs found in some other tools.
- Nylon Friction Plugs—connect barrel and handle instead of set screws. They help absorb vibration for smoother running.
- EU/CE - DE, ES, FR, IT, NL, UK.



PH3045
Moderate-Duty Air Hammer
Use on sheet metal or exhaust system service. U.S. Design Patent No. D299,411.



AT145A
Moderate-Duty Air Hammer Ideal for chipping, riveting, and scaling metals. Includes quick change retainer.

PHG3045CH4
Air Hammer Set



Medium-Duty Air Hammers

Specifications	PH3045 Moderate-Duty	AT145A Moderate-Duty
Recommended Air Pressure, PSIG (kPa)	90 (620)	90 (620)
Air Consumption, CFM (SCFM) [l/min.]	2.3 (17.5) [65.13]	4.0 (28) [113.3]
Sound Level, Free Speed, dBA	100	100
Blows per Minute	4900	3200
Air Inlet Thread Size	1/4"-18 NPT	1/4"-18 NPT
Recommended Hose Size, inches (mm)	5/16 (8) ID Min.	5/16 (8) ID Min.
Overall Length, inches (mm)	6.9 (175)	8.75 (222)
Vinyl Boot	YA20500	—
Chuck Bit Size, inches (mm)	.401 (10.2) shank diameter	.401 (10.2) shank diameter

PHG3045CH4 Medium-Duty Air Hammer Set.

Includes:

PH3045	Moderate-Duty Air Hammer
PH200D	Retainer Chuck
PHG55	Flat Chisel, 3/4" wide.
PHG65	Outside Muffler Cutter, 3/32" radius.

PHG66	Inside Muffler Cutter, 3/16" radius.
PHG87	Muffler Cutter, 17/32" wide.
PB1C	Plastic Box

In-Line Air Hammer

Compact size allows access in tight quarters. Hammer features quick change chuck, non-turning bits for better control, full range power regulator and variable speed paddle trigger with safety lever. Light-weight design minimizes user fatigue. Ergonomic cushion grip offers a comfortable, non-slip gripping surface and helps reduce vibration.

Specifications	PH2040
Recommended Air Pressure, PSIG (kPa)	90 (620)
Air Consumption, CFM (SCFM) [l/min.]	0.52 (3.5) [14.72]
Sound Level, Free Speed, dBA	81
Blows per Minute	3000
Piston Stroke, inches (mm)	2.25 (57)
Air Inlet Thread Size	1/4"-18 NPT
Recommended Hose Size, inches (mm)	5/16 (8)
Overall Length, inches (mm)	8.12 (206)
Weight, lbs. (kg)	1.8 (0.82)
Vibration Level	4.0 m/s
Chuck Bit Size, inches (mm)	.401 (10.2) shank diameter

Includes:

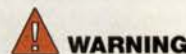
PH2040-30	Flat Chisel Bit
PH2040-31	Ripper Bit

Optional:

PH2040-32	Spotweld Breaker
PH2040-33	Round Bumping Bit
PH2040-34	Slitting Chisel
PH2040-35	Tapered Punch Bit

PH2040
In-Line Air Hammer

• EU/CE - DE, ES, FR, IT, NL, UK.



WARNING

- Do not operate without guard.
- Do not use power tool accessories above their maximum rated RPM.
- Read additional safety precautions on pages M1 to M4.



Power Tools, Air Air Hammers Bits and Accessories



PHG5 Sheet Metal Ripper.
5/8" wide, 5" long.



PHG58 Flat Chisel.
5/8" wide, 9 7/8" long.
PHG84 Flat Chisel.
5/8" wide, 18" long.
PHG55 Flat Chisel.
3/4" wide, 7" long.



PHG61 Slitting Chisel.
1" wide, 6 7/8" long. Cuts exhaust and tailpipes.



PHG64 Bent End Chisel.
5/8" wide, 9 9/16" long. End is offset 30°. Shears ball joint rivets.



PHG85 Curved Flat Chisel.
5/8" wide, 5 3/4" long.



PHG56 Scraper.
1 1/2" wide, 6 5/8" long.



PHG57 Double-Bladed Panel Cutter.
3/4" wide, 6" long. Slices bushings, cylinder sleeves, etc.



PHG65 Outside Cutter. 3/32" radius, 8 1/4" long.
PHG66 Inside Cutter. 3/16" radius, 8 1/4" long.



PHG76 Bushing Cutter.
17/32" wide, 8 1/2" long.



PHG59 Tapered Punch.
3/16" tip, 7" long.



PHG73 Drift Punch.
1/2" tip, 6" long.



Valve Guide Removers.
PHG97 5.5mm pilot. 176mm long.
PHG91 6.5mm pilot. 189mm long.
PHG96 7mm pilot. 189mm long.
PHG83 8mm pilot. 189mm long.
PHG86 9mm bit for VW and Porsche 911 air-cooled engines. 9mm pilot. 189mm long.



Roll Pin Punches
PHG80 1/4" tip diameter. 6" long.
PHG81 5/16" tip diameter. 6" long.
PHG82 3/8" tip diameter. 6" long.



Ball Joint and Tie Rod Separators
PHG94 5/8" opening, 8 1/4" long.
PHG63 13/16" opening, 8 5/16" long
PHG69 1" opening, 8 5/16" long.
PHG93 1 1/4" opening, 9 1/16" long.



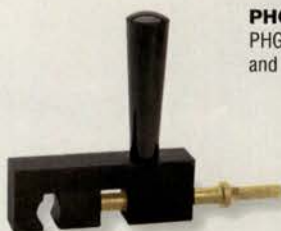
PHG70 Spot Weld Breaker.
5/8" wide tip, 6 3/4" long.



Shock Absorber Nut Breakers.
PHG171 Straddles 5/16" shaft, 18" long.
PHG167 Straddles 5/16" shaft, 10 1/2" long.
PHG170 Straddles 3/8" shaft, 18" long.
PHG168 Straddles 3/8" shaft, 10 1/2" long.



PHG87 Muffler Cutter.
17/32" wide, 8" long.



PHG92 Tie Rod Breaker. The handle steadies breaker as the punch and housing combination vibrates tie rod sleeve and arm joint apart. Covered under U.S. Patent No. 4,512,222.

PHG1005K Air Hammer Bit Set.
PHG51D, PHG55B, PHG61, PHG57B, and PHG70 (5 pcs) in C508A Kit Bag.



Note: All bits are designed for use with air hammers that will accommodate a .401" shank.

Air Hammer Bits and Accessories

Power Tools, Air



PHG71 Round Hammer.
1" diameter head, 4" long.



PHG72 U-Joint Trunion Driver. For needle-type trunions. 7/8" diameter head, 3 7/8" long.



PHG89 For forming heads on 1/4" compression rivets. 3 7/8" long.



Riveters

PHG74 For 3/16" stem. 6" long.
PHG78 For 1/4" stem. 6" long.
PHG88 For forming heads on 3/16" compression rivets. 6" long.



PHG95 Hole Punch.
Punches 3/16" diameter starting hole in sheet metal to prepare it for use with CJ107 and CJ114 Body Dent Pullers.



PH75 Bushing Driver.
Use with A157C, A158B, or A257 Bushing Driver Set.



PH201 Needle Scaler.
Projecting rods chip away rust and scale. Use only with older model PH45 and PH2045 Series Air Hammers. 7 13/16" long.



PH1100 Brake Pin Installer Use with air hammer that accommodates a .401" shank to quickly install adjuster pins in brake shoes. Tip inside diameter is 0.39". Tip depth is 0/40". Overall length of 6".



PH77 Expander Cone. Use air hammer power for efficient muffler and tailpipe expansion.



PH158A Panel Crimper.
Forms a step in sheet metal so a patch may be set flush for spot welding. 7" long. Can accommodate .024" through .060" sheet metal when used with Snap-on® PH50 or PH2050 Air Hammers.



Socket Adaptors

Attaches to air hammer to provide vibration while turning stubborn fasteners.

PH1038 Air Hammer Socket Adaptor (3/8" sq. dr.). 3/4" hex, 5" length. Industrial finish.
PH1050 Air Hammer Socket Adaptor (1/2" sq. dr.). 3/4" hex, 5" length. Industrial finish.

Muffler / Tailpipe Expander

PH770 Muffler-Tail Pipe Expanding Set.

Includes:

PH79 Cone Driver. 5/8" diameter. 5 11/16" long.
PH77 Cone. 1 1/8" to 3" in diameter. 5 1/4" long. Outside diameter at the small end is 1 1/8"; outside diameter at the large end is 3". Just a few air hammer blows from the Snap-on® PH2045 or PH2050 Air Hammers will expand the pipe with the small end of the cone inserted.

Non-turning Bits / Retainer Chuck



PHG151 Panel Cutter.
Edges and trims sheet metal. Cutting end is offset 25°. 5/8" wide, 6 11/16" long.



PHG157 Panel Cutter.
Slices bushings, cylinder sleeves, and exhaust pipes. 3/4" wide, 1/8" tip thickness, 7 1/2" long.



PHG161 Slitting Chisel.
Cuts exhaust system pipes. 1" wide, 1/8" tip thickness, 8 3/4" long.



PHG155 Cold Chisel.
Cuts bolts, nuts, tees, and angles. Also splits and bevels. 21/32" wide, 7" long.

PH200D Retainer Chuck. Use for fast and easy insertion/removal of air hammer bits. Non-turning insert design reduces wear for longer tool life. Constructed from high grade steel. Insert is constructed from durable polyurethane elastomer. Universal design fits most air hammers. Just pull back collar to quickly insert/remove a hammer bit. Knurled chrome collar ensures a sure gripping surface, even with greasy hands. Field replaceable parts makes maintenance easy. Made in USA. CE patent pending.



PH200D



YA2800 Screw Remover.
Insert 5/16" hex bit and turn handle while impacting. Includes 4 PHILLIPS® bits: #1, #2, #3, and #4. Requires no more than 30 PSI working pressure.

Air Hammer Accessories

PHV100 Air Regulator. For use with Snap-on® PH2045 and PH2050 Air Hammers. Four position control knob regulates air pressure supplied to air hammer. Unit features knurled control knob and chrome finish. 1/4"-18 NPT thread size.

YA20500 Vinyl Air Tool Boot (for PH2045, PH2050).

PB1C Plastic Carrying Case.



PHV100



WARNING

- Do not operate without guard.
- Do not use power tool accessories above their maximum rated RPM.
- Read additional safety precautions on pages M1 to M4.



Power Tool Accessories, Air

These grinding burrs are ideal for use with our die grinders described on pages 236-238. 1/4" and 1/8" shank burrs are available—all with solid carbide heads. The 1/8" shank units all have a maximum head diameter of 1/8".

1/4" Shank

Generally used for ferrous metals.

Stock No.	Style	Flute Length, inches	Head Diameter, inches	Recommended RPM Cast Iron	Recommended RPM Stainless
VWB1B	A	5/8	1/4	22,000	23,000
VWB9A	A	1	1/2	16,000	24,000
VWB2A	B	3/4	3/8	18,000	27,000
VWB10A	B	1	1/2	16,000	24,000
VWB3A	C	1/4	5/16	20,000	30,000
VWB4A	D	7/8	1/2	16,000	24,000
VWB11A	E	3/4	3/8	18,000	27,000
VWB5A	E	1	1/2	16,000	24,000
VWB6A	F	3/4	3/8	18,000	27,000
VWB7A	G	1 1/8	1/2	16,000	24,000
VWB12A	G	1 1/16	3/8	18,000	27,000
VWB8A	H	7/8	1/2	16,000	24,000

VWB800C 1/4" Shank Set. Includes VWB1B, VWB2A, VWB3A, VWB4A, VWB5A, VWB6A, VWB7A, and VWB8A (8 pcs) in a metal index.

1/4" Shank, Wide Fluted

For non-ferrous metals, plastics, and softer material.

Stock No.	Style	Flute Length, inches	Head Diameter, inches	Recommended RPM Cast Iron	Recommended RPM Stainless
VWB206B	A	1	1/2	15,000	25,000
VWB204B	A	3/4	1/4	15,000	25,000
VWB203B	B	1	1/2	15,000	25,000
VWB202B	E	1	1/2	15,000	25,000
VWB201B	G	1 1/8	1/2	15,000	25,000
VWB205B	G	1 1/16	3/8	15,000	25,000

Grinding Burrs



Grinding Burr Styles



VWB800C



VWB700A

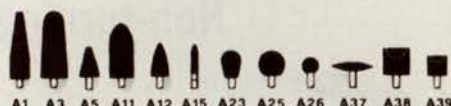
1/8" Shank

Stock No.	Style	Flute Length, inches	Recommended RPM Cast Iron	Recommended RPM Stainless
VWB301A	A	9/16	20,000	75,000
VWB302A	B	9/16	20,000	75,000
VWB303A	C	1/8	20,000	75,000
VWB304A	D	7/32	20,000	75,000
VWB305A	E	1/2	20,000	75,000
VWB306A	F	3/8	20,000	75,000
VWB307A	G	1/2	20,000	75,000
VWB308A	H	7/16	20,000	75,000

VWB700A 1/8" Shank Set. VWB301A thru VWB308A (8 pcs) in a metal index.

Also see YA333A 3-Piece Cutter Kit on page E74. Designed specifically for elongating alignment adjustment slots on new vehicles.

Abrasive Wheels



Abrasive Wheel Styles

VWB650



VWB600



1/4" Shank

Shape No.	Stock No.	Grit	Diameter, inches	Thickness, inches	Shank Length, inches	Maximum Rated RPM
A1	VWB101	46	7/8	2 1/2	1	17,325
A3	VWB102	46	1	2 3/4	1	16,100
A11	VWB104	46	7/8	2	1 1/2	19,860
A12	VWB105	60	1 1/16	1 1/4	1 1/2	48,000
A15	VWB655	60	1/4	1 1/4	1 1/2	72,750
A37	VWB656	60	1 1/4	1/4	1 1/2	30,560
W193	VWB111	60	5/8	3/8	1 1/2	61,120
W220	VWB658	60	1	1	1 1/2	25,500

Maximum RPM specifications per ANSI B7.1.

VWB650 1/4" Shank Set. Includes 4 each VWB101, VWB102, VWB104, VWB105, VWB111, VWB655, VWB656, and VWB658 (32 pcs).

1/8" Shank

Shape No.	Stock No.	Grit	Diameter, inches	Thickness, inches	Shank Length, inches	Maximum Rated RPM
B44	VWB601	100	7/32	3/8	1 1/2	68,400
B52	VWB602	80	3/8	3/4	1 1/2	45,370
B123	VWB603	120	3/16	N/A	1 1/2	104,250
W144	VWB604	120	1/8	1/4	1 1/2	105,000
W152	VWB605	80	3/16	1/4	1 1/2	105,000
W162	VWB606	60	1/4	3/8	1 1/2	68,400
W176	VWB607	60	3/8	1/2	1 1/2	45,370
W200	VWB608	80	3/4	1/8	1 1/2	50,930

Maximum RPM specifications per ANSI B7.1.

VWB600 1/8" Shank Set. Includes 6 each VWB601 thru VWB608 (48 pcs).

Wire Brushes Power Tool Accessories, Air



Crimped

For removing carbon from cylinder heads and valve parts.

Stock No.	Brush Diameter, inches	Shank Size Arbor Size	Wire Diameter, inches	Maximum Safe Free Speed, RPM
AC2C	1	1/4"	.020	20,000
AC3C	3/4	1/4"	.020	20,000
AC4C	1/2	1/4"	.020	22,000



Spiral Twist

For removing heavy deposits.

Stock No.	Brush Diameter, inches	Shank Size Arbor Size	Wire Diameter, inches	Maximum Safe Free Speed, RPM
AC6A	3/4	1/4"	.014	20,000
AC7D	1	1/4"	.020	20,000



Hollow End Crimped Cup

For light-duty cleaning.

Stock No.	Brush Diameter, inches	Shank Size Arbor Size	Wire Diameter, inches	Maximum Safe Free Speed, RPM
AC241A	2 1/2	1/4"	.012	6,000



Encapsulated Wire End Brushes

For a consistent stiff brushing action.

Stock No.	Brush Diameter, inches	Shank Size Arbor Size	Wire Diameter, inches	Maximum Safe Free Speed, RPM
AC204B	1/2	1/4"	.014	8,000
AC205B	3/4	1/4"	.014	8,000
AC206B	1	1/4"	.014	8,000



A24B



Knotted Wire Wheel

For heavy-duty cleaning.

Stock No.	Brush Diameter, inches	Shank Size Arbor Size	Wire Diameter, inches	Maximum Safe Free Speed, RPM
AC420	4	5/8"-11	.020	20,000
AC421	4	M10 x 1.25	.020	20,000

A24B Arbor Adaptor. Adapts electric drill to light-duty grinding and wire brushing. Use with wheels and brushes up to 4" in diameter. Shank is 1/4" and arbor is 1/2" in diameter. Length is 1 3/4". Maximum Rated RPM: 20,000.



Solid End

For cleaning aluminum cylinder heads and transmission parts.

Stock No.	Brush Diameter, inches	Shank Size Arbor Size	Wire Diameter, inches	Maximum Safe Free Speed, RPM
AC16C	3/4	1/4"	.006	20,000



Cup Type

For cleaning wheel rims and scuffing tires.

Stock No.	Brush Diameter, inches	Shank Size Arbor Size	Wire Diameter, inches	Maximum Safe Free Speed, RPM
AC240A	1 1/2	1/4"	.012	6,000



Cup Flared

For deburring, cleaning hard-to-reach areas and wheel rims, and scuffing tires.

Stock No.	Brush Diameter, inches	Shank Size Arbor Size	Wire Diameter, inches	Maximum Safe Free Speed, RPM
AC208	1 1/2	1/4"	.008	20,000
AC212	1 1/2	1/4"	.012	20,000
AC214	2 1/2	1/4"	.014	18,000
AC224	3	1/4"	.014	15,000



Knot-Type, Single Row Wire Cup

Stock No.	Brush Diameter, inches	Shank Size Arbor Size	Wire Diameter, inches	Maximum Safe Free Speed, RPM
AC339	3	5/8"-11	.020	12,500
AC340	3	M10 x 1.25	.020	12,500
AC341A	3	5/8"-11	.012	7,000
AC342A	4	5/8"-11	.020	7,000



Crimped Cup

For light-duty cleaning.

Stock No.	Brush Diameter, inches	Shank Size Arbor Size	Wire Diameter, inches	Maximum Safe Free Speed, RPM
AC343A	4	5/8"-11	.014	6,000
AC345	3	5/8"-11	.012	12,500



WARNING

- Do not use power tool accessories or grinding wheels above their maximum rated RPM.
- Do not use wire brushes above maximum safe free speed RPM.
- Read additional safety precautions on pages M1 to M4.



Vented Blow Guns

Vented Tip. Triggers regulate airflow from partial to full line pressure. Valve has no cutoff and no restrictions. Each tip is side vented. Each gun includes hanging hook and paddle-type air control lever.

JT10AS 2 1/8" long, no tube.

JT11AS 6 1/2" long, 4" tube.

JT12AS 12" long, 9 7/8" tube.



JT19 Venturi-Tip. Directs air sideways if tip end becomes obstructed and increases airflow. Includes stabilizer valve for variable pressure. 1" hanging hook and paddle-type air control lever. 1/4"-18 NPT(f) inlet.

YA1055 Star Tip. Variable flow trigger offers precise air flow control. Six-outlet "star tip" delivers an even distribution of air. 4" Full Flow tube. Ergonomic handle design for increased comfort. Complies with OSHA safety standards. Air Inlet: 1/4" NPT. Maximum Working Pressure: 175 PSI (12 bar).



Non-Vented Blow Guns

JT13 Tapered, rubber tip for a leak proof connection between gun and fluid line. Won't mar surfaces. Vinyl-coated control lever. Hanging hook for storage. 4 1/2" long.

JT16 Brass-tip version of JT13.

JT17 Same as JT13 except with a 3" tip extension in place of the rubber tip.

JT18 Same as JT17 except with a 6" tip extension.

JT25 Same as JT13 except with a 3", flexible nylon tip.

YA1050A Pistol-grip style with front full size trigger. Infinitely variable flow. 10 1/4" long.

YA1052 Extends from 12" (304mm) to 36" (914mm). Precision engineered air inlet flow system ensures added security. Stainless steel shaft for durability. Vented tip.

YA1053 Flexible shaft bends to desired angle to meet job requirements. Stiff flex joints retain desired shape. High grade composite construction for durability. Vented tip.

YA4010 Conical rubber tip for YA1050.

JT14 Industrial, interchange-style coupler.

JT15 Universal 1/4" pipe threading.

JT20 ARO-style coupler.

JT21 Tru-Flate-style male coupler.

JT22 Lincoln-style male coupler.

JT23 Solid brass. Industrial interchange-style coupler.

JT24 Solid brass. ARO-style coupler.

Lubrication



IM6

Lubrication Accessories

IM6 Air Motor Oil. Specially formulated to lubricate, clean, and protect expensive components. Cleans all piston and rotary air motors and helps prevent rust formation. 1 pint bottle.

CL6 Cutting Oil. Superior anti-weld and lubricating properties reduce heat buildup in drill bits, grinding burrs, and other metal cutting tools. 1-pint bottle.



CL6

Power Tool Accessories, Air

Air Hoses and Swivels

Air Hose Swivels

Swivels turn 360° at two points for complete tool maneuverability. Air hoses hang straight to the floor; won't kink.



Stock No.	Thread Size	Maximum Pressure, PSI	Airflow
YA502P	1/4" NPT	150	Up to 33 SCFM (935 LPM)
YA502FC	1/4" NPT	150	Up to 46 SCFM (1303 LPM)
YA502A	1/4" NPT	150	Up to 33 SCFM (935 LPM)

Whip Hoses

Heavy-duty rubber hoses.

Male swivel connector on one end helps prevent kinking. Female fitting on the other end. Fittings have a hex nut for tightening.



Stock No.	Hose ID, inches	Hose Length, Feet	Thread Size	Maximum Pressure, PSI
IM2001*	1/4	5	1/4"-18 NPT	300
IM2002	3/8	5	1/4"-18 NPT	300
IM2003**	1/4	6	1/4"-18 NPT	300

*Recommended for moderate-duty tools only.

**Includes IM10C Air Regulator (page 211).

Air Hoses

Ideal for industrial applications.

Similar construction to whip hoses above except there are no swivel connectors. Male threads at both ends. Red.



Stock No.	Hose ID, inches	Hose Length, Feet	Thread Size	Maximum Pressure, PSI
IM2004	3/8	2	1/4"-18 NPT	300
IM2005	3/8	25	1/4"-18 NPT	300
IM2008	3/8	50	1/4"-18 NPT	300
IM2006	1/2	25	3/8"-18 NPT	300
IM2009	1/2	50	3/8"-18 NPT	300

Recoil Hoses

Durable nylon. Male fittings on each end feature swivel connector for twist-free action. Each fitting has a hex nut for tightening. Red.



Stock No.	Hose ID, inches	Hose Length, Feet	Thread Size	Maximum Pressure, PSI
AH1	5/16	12	1/4"-18 NPT	200
AH2	5/16	25	1/4"-18 NPT	200
AH3	3/8	12	1/4"-18 NPT	200
AH4	3/8	25	1/4"-18 NPT	200
AH5	1/4	25	1/4"-18 NPT	200
AH6*	1/4	50	1/4"-18 NPT	200
AH7	3/8	50	1/4"-18 NPT	200

*Recommended for moderate-duty tools only.



Air Hoses—High-Intensity Colors

Top-quality PVC air hoses in brilliant color selections.

Vinyl guard kink restrictors on both ends. Choose from 25' or 50' lengths.

Stock No.	Color	Hose ID, inches	Hose Length, Feet	Thread Size	Maximum Pressure, PSI
IMPV225GA	Green	3/8	25	1/4"-18 NPT	300
IMPV225OA	Orange	3/8	25	1/4"-18 NPT	300
IMPV225YA	Yellow	3/8	25	1/4"-18 NPT	300
IMPV250GA	Green	3/8	50	1/4"-18 NPT	300
IMPV250OA	Orange	3/8	50	1/4"-18 NPT	300
IMPV250YA	Yellow	3/8	50	1/4"-18 NPT	300

Air Line Couplers and Adaptors



AHCC98 Coupler. High flow female coupler improves the low pressure performance of 1/2" drive air impact wrenches and other high air consumption air tools. If low pressure performance is the result of improper fittings that restrict air flow, replacement with the AHCC98 Coupler and AHCCP97 Adaptor will solve most of the problems by increasing air flow to the tool.

AHCCP97 Adaptor. Use with AHCC98 High Flow Coupler to improve low pressure performance of 1/2" drive impact wrenches and other high air consumption air tools.

AHCC91 Coupler. High volume 1/4" male quick connect coupler is designed to deliver high volumes of air to spray guns and air tools.

AHCCP90 Nipple. 1/4" female quick connect nipple is designed to deliver high volumes of air to spray guns and air tools.

		Quick Coupler			Adaptor	
Body Size, inches	Style	Thread Size	Male Stock No.	Female Stock No.	Male Stock No.	Female Stock No.
1/4	Lincoln	1/4"-18 NPT	—	AHC26A	AHC26MA	AHC26F
1/4	True-Flate	1/4"-18 NPT	—	AHC24A	AHC24MA	AHC24FA
3/8	True-Flate	3/8"-18 NPT	—	AHC25A	AHC25M	AHC25FA
1/4	ARO	1/4"-18 NPT	AHC23PMA	AHC23A	AHC23MA	AHC23FA
1/4	Industrial Interchange	1/4"-18 NPT	AHC21PM	AHC21A	AHC21MA	AHC21FA
3/8	Industrial Interchange	1/4"-18 NPT	—	AHC22B	AHC22MA	AHC22FA
3/8	Industrial Interchange	3/8"-18 NPT	—	AHC28A	AHC28MA	AHC28FA
1/2	Industrial Interchange	1/2"-14 NPT	—	AHC27A	AHC27M	AHC27F
1/4	Rigid Mounting*	1/4"-18 NPT	—	AHC21PA	—	—

*Brass "push-to-connect" type; use in place of AHC21 and AHC22 on rigid piping systems only.



WARNING

- Do not use power tool accessories above their maximum rated RPM.
- Blow guns create flying particles, noise and high pressure.
- Wear safety shield (user and bystander). Do not direct air at yourself or bystander.
- Keep out of reach of children.
- VENTED BLOWGUNS: Do not use if air supply is above 135 psig. Do not obstruct vents.
- NON-VENTED BLOWGUNS: Do not use if air supply is above 30 psig. Flying particles, noise and high pressure can cause injury.
- Read additional safety precautions on pages M1 to M4.

Power Tool Accessories, Air Air Compressors



Snap-On® Signature Series Air Compressors

Stock No.	HP	Tank Capacity, gallon	Tank Style	Electrical Requirements	Amp Requirements	Air Delivery in SCFM @ PSIG	Maximum PSI
BRA401P	4	20	Portable	120V, single phase	15	6.2 @ 90	125
BRA718V	7	80	Stationary/Vertical	208/230V, single phase	27.5/25	23.5 @ 175	175
BRA818V	8	80	Stationary/Vertical	208/230V, single phase	34.2/30	27 @ 175	175
BRA10312H	10	120	Stationary/Horizontal	230V, three phase	24.3	40 @ 175	175
BRA15312H	15	120	Stationary/Horizontal	230V, three phase	37.6	50 @ 175	175
BRA20312H	20	120	Stationary/Horizontal	230V, three phase	49.6	68 @ 175	175
BRA9G3B	9	30	Stationary/Horizontal	Gas Engine	—	22 @ 175	175
BRA5DV30VP	5	30	Portable/Horizontal	120 / 220V, single phase	15/7.5	7 @ 150	150

BRATS175 Air Tank. Bring portable, compressed right to where it is needed.

Large 10-gallon capacity and 175 PSI pressure capability will meet most on-site job requirements. Includes accessory kit.



BLUE-POINT® Air Compressors

All Blue-Point® Air Compressors meet code requirements for ASME and state of California.

See brochure SV362 for more information.

Stock No.	HP	Tank Capacity, gallon	Tank Style	Electrical Requirements	Amp Requirements	Air Delivery in SCFM @ PSIG	Maximum PSI
ACBF630	6	30	Portable / Horizontal	120V, Single Phase	15	5.8 @ 90	135
ACBL5G20HP	5	20	Portable/Horizontal	Gas Engine / Manual Start	—	10 @ 90	110
ACBL530VP*	5	30	Portable/Vertical	120V, Single Phase	15	7.1 @ 90	125
ACBL760V	7	60	Stationary/Vertical	240V, Single Phase	15	10.2 @ 90	135
ACBLK6580V2	6.5	80	Stationary/Vertical	240V, Single Phase	30	16 @ 175	175

*ACBL530VP factory wired for 120V. 240V model available.

Dust Collection System

YA430 Dust Collection System. Vacuum system designed for PS Series Sanders. Offers superb dust control for any type of auto body refinishing. Dual filtration system filters dust to 2µm. Shortens cleanup time and helps eliminate paint finish problems/rework time caused by a dusty environment. Remote control on/off operation. Motor is turned on when sander is activated and stops when air tool stops. Manual override switch to operate vacuum only. Measures 52" x 24" x 24". Requires 120VAC.

Specifications	YA430
No. of User Stations	2
RPM	20,000
Recommended Air Pressure, PSIG (kPa)	90 (620)
Width x Height x Depth, Front to Back, inches	24 x 52 x 24
Capacity, cu. ft.	2
Vacuum Motor	2-stage bypass (96 cfm)
Voltage	120VAC, 60Hz
Optional Voltage	240VAC, 50 Hz/60 Hz (4.5 amp)
Vacuum Hoses	2, 15' x 1.25" diameter
Prefilter	5µm dust bag
Front Casters	2 swivel
Rear Wheels	10" diameter
Replacement Air Supply Hose	YAD430647



Quickclamp® Regulators, Filters, and Valve

The Quickclamp® Modular System.

For a unique and timesaving method of connecting and replacing AHR Series air line products, The Quickclamp® System utilizes modular design of filters, regulators,

lubricators, and accessories. This allows installation and removal of the AHR Services units and accessories without breaking a pipe connection. The unique yet simple clamping device holds AHR product components in rigid combinations.

AHR434
Quickclamp® Device



AHR436
Quickclamp® Device with Wall Mount



AHR438
Wall Mount Bracket



AHR432 Oil Removal Filter (coalescing). For in-line or modular installation, the AHR432 features a quick-release bayonet bowl, a high-visibility prismatic lens, a liquid level indicator, and a high-efficiency coalescing element. Provides Air Quality Class 2 Hydrocarbon and Class 1 Particulate Removal per ISO 8573-1. Inlet/outlet port size is 1/2" NPT(f).



AHR424 General Purpose Filter. Features a quick-release bayonet bowl, a high-visibility prismatic lens, and a liquid level indicator. Excellent water removal characteristics. Standard depth type 40 mm filter element. Particle removal per ISO 8573-1, Class 5 and Class 3. Inlet/outlet port size is 1/2" NPT(f).

AHR426 General Purpose Pressure Regulator.

Features full flow gauge ports and standard relieving regulators. Low-torque, non-rising pressure adjustment knob has integral locking device. Balanced valve minimizes effect of variation in inlet pressure on the outlet pressure. Inlet/outlet port size is 1/2" NPT(f). Gauge port is 1/4" NPT(f).



AHR428 Oil Filter Lubricator. Features a quick-release bayonet bowl, a high-visibility prismatic lens, and a liquid level indicator. Lubricates a single tool, cylinder, or other air-powered device. Single-knob type, oil feed adjustment. All-around (360°) visibility of the sight feed dome. Inlet/outlet port size is 1/2" NPT(f).



AHR430 General Purpose Filter/Regulator. Features a quick-release bayonet bowl, a high-visibility prismatic lens, and a liquid level indicator. Excellent water removal characteristics. Low-torque, nonrising pressure adjustment knob has integral locking device. Standard depth type 40 µm filter element. Particle removal per ISO 8573-1, Class 5 and Class 3. Inlet/outlet port size is 1/2" NPT(f). Gauge port is 1/4" NPT(f).



AHR423 Automatic Drain Valve. When fluid reaches full level it activates the float and drains unwanted oil and water automatically. Can be used in place of a manual drain on the following units: AHR424 and AHR430.

Stock No.	Maximum Inlet Pressure, PSIG (bar)	Temperature Range, °F (°C)	Flow,		Drain Connection	
			SCFM	dm3/s	Manual	Automatic
AHR424	250 (17.2)	175 (79)	150	(71)	7/16"-24 UNS (m)	1/8" NPT(f)
AHR426	300 (20.7)	0-175 (-18-79)	—	—	—	—
AHR428	250 (17.2)	175 (79)	3.5-100	(1.7-47.0)	7/16"-24 UNS	—
AHR430	250 (17.2)	0-175 (-18-79)	—	—	7/16"-24 UNS	1/8" NPT(f)

Regulator/Filter/Lubricator and Valve

Stock No.	Inlet/Outlet Port Size	Adjustable Pressure Range	Maximum Service Pressure	Maximum Air Flow	Oil Capacity	Operating Temperature Range
		(5-8.5 kgf/cm2)	(9.9 kgf/cm2)			(5-60° C)
AHRB200	1/2" NPT (F)	5-120 PSIG	140 PSIG	2,200 l/min.	80 ml	41-140° F

IM10C 1/4 Turn Air Valve. Volume of airflow can be regulated with 1/4 turn of the control knob. Aluminum housing. Male/female thread sizes.

IM10C



AHRB200



WARNING

• Read additional safety precautions on pages M1 to M4.

See Warranty Information on inside front cover.

Power Tools, Cordless Impact Wrenches

14.4 Volt Impact Wrenches (1/2" Drive)

Specifications	CT3450	CT3450L	CT3450P	CT3450DB
Square Drive Size, inches	1/2	1/2	1/2	1/2
Tightening Torque, ft. lbs. (N•m)	160 (217)	160 (217)	160 (217)	160 (217)
Free Speed, RPM	1600	1600	1600	1600
Blows per Minute	2160	2160	2160	2160
Motor/Battery Voltage	14.4VDC	14.4VDC	14.4VDC	14.4VDC
Battery Type	Nickel-cadmium	Nickel-cadmium	Nickel-cadmium	Nickel-cadmium
Battery Life	600 cycles	600 cycles	600 cycles	600 cycles
Charge Time	approx. 45 min.	approx. 1 hour	approx. 1 hour	approx. 45 min.
Length, inches (mm)	9.5 (241)	11.5 (292)	9.5 (241)	9.5 (241)
Weight, lbs. (kg)	8.9 (4.04)	8.9 (4.04)	8.9 (4.04)	8.9 (4.04)
Battery	CTB314	CTB314	CTB314	—
Battery Charger	CTC318	CTC318	CTC318	—
Vinyl Boot	YA982	YA982	YA982	YA982

CT3450. Includes impact wrench, battery pack and charger in PB127B Plastic Case.

CT3450L. Long anvil version of CT3450.

CT3450P. Pinned anvil version of CT3450.

CT3450DB. Impact wrench only. Does not include battery or charger.

International Versions of CT3450:

Same specifications as CT3450 except for battery charger.

CTA3450 Australian model. Uses charger CTCFA318.

CTE3450 European model. Uses charger CTCFE318.

CTJ3450 Japanese model. Uses charger CTCJ318.

CTU3450 United Kingdom model. Uses charger CTCFU318.



CT3450



14.4 Volt Impact Wrench Features:

- 14.4VDC Battery and Motor for the most powerful cordless impact wrench available.
- High Capacity Battery Pack delivers longer run time.
- Tough, Impact Resistant Housing made of durable, glass-filled reinforced nylon.
- Non-stall Design Gear Motor develops 2,160 blows per minute.
- Quick Battery Re-charge Time of about 1 hour.
- Balanced "T" Handle With Soft Grip reduces user fatigue while increasing comfort.
- Variable Speed Switch for maximum control.
- Air Deflector System keeps the motor cool for longer brush life.
- All Steel Internal Components and Double Ball Bearing Air Motor for longer tool life.
- UL Listed.
- EU/CE - DE, ES, FR, IT, UK, NL, European models.

CT3850



18 Volt Impact Wrenches (1/2" Drive)

Specifications	CT3850	CT3850DB	CT3850QCDB
Square Drive Size, inches	1/2	1/2	1/2
Tightening Torque, ft. lbs. (N•m)	210 (284)	210 (284)	90 (117)
Free Speed, RPM	1950	1950	1950
Blows per Minute	2400	2400	2400
Motor/Battery Voltage	18VDC	18VDC	18VDC
Battery Type	Nickel-cadmium	Nickel-cadmium	Nickel-cadmium
Battery Life	600 cycles	600 cycles	600 cycles
Charge Time	approx. 45 min.	approx. 45 min.	approx. 45 min.
Length, inches (mm)	9.5 (241)	9.5 (241)	9.5 (241)
Weight, lbs. (kg)	6.5 (2.95) with battery	6.5 (2.95) with battery	6.5 (2.95) with battery
Battery	CTB3185	—	—
Battery Charger	CTC318	—	—
Vinyl Boot	YA982	YA982	YA982

CT3850. Includes impact wrench, battery pack and charger in PB127B Plastic Case.

CT3850DB. Impact wrench only. Does not include battery or charger.

CT3850QCDB. Quick change chuck version. Impact wrench only. Does not include battery or charger.

International Versions of CT3850:

Same specifications as CT3850 except for battery charger.

CTA3850 Australian model. Uses charger CTCFA318.

CTE3850 European model. Uses charger CTCFE318.

CTJ3850 Japanese model. Uses charger CTCJ318.

CTU3850 United Kingdom model. Uses charger CTCFU318.

18 Volt Impact Wrench Features:

- Patented impact mechanism delivers power & durability.
- Patented air flow system keeps motor cool for longer life.
- Heat-treated alloy steel gears.
- Cushion mounted motor dampens vibration.
- Alloy steel driveshaft bushing.
- Soldered terminals have greater strength & conductivity.
- Soft grip handle.
- Rugged housing helps prevent damage from dropping and resists chemical damage from most automotive solvents.
- Balanced design.
- Conveniently located Forward/Reverse bar.
- Impact wrench is UL Listed.
- EU/CE - DE, ES, FR, IT, UK, NL, European models.

Impact Wrenches



CT3110

The CT3110/CT310 3/8" Drive Impact Wrench Series provides the latest in cordless power and portability. It is the tool of choice for on the spot maintenance service of go-carts, moto-cross, motorcycles, marine service, small engine repair, RV customizing, golf carts, snowmobiles and more.

12 Volt Impact Wrench Features:

- Forward/Reverse slide switch for convenience
- Variable speed switch puts you in control
- Balanced T-handle design for extra comfort
- Heavy duty switch for extended durability
- Soft grip to reduce hand fatigue
- High capacity battery pack for long life
- Heavy duty, fan-cooled motor
- Tough impact-resistant housing
- UL Listed. CSA Certified.
- EU/CE - DE, ES, FR, IT, UK, NL, European models.

12 Volt Impact Wrenches (3/8" Drive)

Specifications	CT3110	CT310
Square Drive Size, inches	3/8	3/8
Tightening Torque, ft. lbs. (N•m)	75 (102)	130 (176)
Free Speed, RPM	2100	1600
Blows per Minute	2400	2160
Motor/Battery Voltage	12VDC	12VDC
Battery Type	Nickel-cadmium	Nickel-cadmium
Battery Life	600 cycles	600 cycles
Charge Time	approx. 45 minutes	approx. 45 minutes
Length, inches	—	9.5
Weight, lbs.	3.78 (with battery)	8.6
Battery	CTB312 or CTB3124	CTB312
Battery Charger	CTC318	CTC318
Vinyl Boot	YA982	YA982

CT3110. Includes impact wrench, battery pack and charger in PB127B Plastic Case.

CT310. Includes impact wrench, battery pack and charger in PB127B Plastic Case.

International Versions of CT3110:

Same specifications as CT3110 except for battery charger.

CTA3110 Australian model. Uses charger CTCFA318.

CTE3110 European model. Uses charger CTCFE318.

CTJ3110 Japanese model. Uses charger CTCJ318.

CTU3110 United Kingdom model. Uses charger CTCFU318.

International Versions of CT310:

Same specifications as CT310 except for battery charger.

CTA310 Australian model. Uses charger CTCFA318.

CTE310 European model. Uses charger CTCFE318.

CTJ310 Japanese model. Uses charger CTCJ318.

CTU310 United Kingdom model. Uses charger CTCFU318.



CT310

Impact Wrench Accessories

211CTIMFMYA Fractional/Metric Impact Socket Set.

Includes the following fractional and metric 3/8" square drive impact sockets (11 pcs) on A269 Socket Rail and Clips.

IMF100A 5/16"	IMF180 9/16"	IMFM14 14mm
IMF120A 3/8"	IMFM10A 10mm	IMFM15 15mm
IMF140A 7/16"	IMFM12 12mm	IMFM8A 8mm
IMF160 1/2"	IMFM13 13mm	

YA982 Vinyl Boot. Protective vinyl boot for CT310, CT3110, CT3450 and CT3850 Impact Wrench series.

PB127B Plastic Case.

SSX2302 Holster. For cordless power tools.



211CTIMFMYA



WARNING

- Use only impact sockets and accessories.
- Do not use power tools above their maximum rated RPM.
- Read additional safety precautions on pages M1 to M4.



Power Tools, Cordless Drills

Put power, convenience and portability in the palm of your hand with Snap-on® Cordless Driver/Drills. The CDR3150 Series offers service technicians and installers the benefits of portable power in many automotive, marine and RV applications. Driver/drills are ideal for in-field service or when conventional power sources are not available.

Cordfree Drill Features:

- Keyless chuck simplifies bit changes.
- Heavy duty variable speed trigger with electric brake delivers precise control.
- Two speed transmission lets you match tool speed to job requirements.
- Recessed Forward/Reverse Push Bar is conveniently located for one-hand operation.
- Six-position clutch allows precise control of applied torque.
- One hour charge time shortens "down time" between charges.
- Fan cooled motor ensures a comfortable housing temperature.
- Balanced, compact T-handle design delivers comfort, control and accessibility in confined areas.
- EU/CE - DE, ES, FR, IT, UK, NL, European models.

Snap-on®

14.4 Volt Drills - 1/2" Capacity

CDR3450 Cordfree Driver/Drill Kit.

Includes CDR3450DB Driver/Drill, CTB314 Battery Pack, CTC318 Charger and PB127A Storage Case.

Specifications	CDR3450
Chuck Capacity, inches	1/2
Stall Torque, in. lbs. (N•m)	300 (33.9)
Free Speed, Drill Mode, RPM	0 - 1400
Free Speed, Drive Mode, RPM	0 - 400
Sound Power Level, dBA	88
Sound Pressure Level, dBA	77
Motor/Battery Voltage	14.4VDC
Weight w/Battery Pack, lbs. (kg)	4.8 (2.2)
Length, inches (cm)	9.82 (24.9)
Height, inches (cm)	9.81 (24.9)
Battery Type	Nickel-cadmium
Battery Life	600 cycles
Charge Time	approx 45 min.
Battery Pack	CTB314
Battery Charger	CTC318
Run Time*	55 holes / charge
Vibration Level	<2.5m/sec

CDR3450DB Cordfree Drill. Driver/drill only. Does not include battery pack, battery charger or storage case.

International Versions of CDR3450:

Same specifications as CDR3450 except for battery charger.

CDRA3450 Australian model. Uses CTCFA318 Charger.

CDRE3450 European model. Uses CTCFE318 Charger.

CDRJ3450 Japanese model. Uses CTCJ318 Charger.

CDRU3450 United Kingdom model. Uses CTCFU318 Charger.

*Run Time specification is based on the number of 1" holes in a 2" x 4" pine board using a 1" spade bit.

18 Volt Drill Features

- Heavy duty industrial strength gear train is supported by two bearings.
- Heat-treated alloy steel gears.
- One-hand bit changes are facilitated by the automatic spindle lock and single sleeve keyless chuck.
- 20-position clutch allows user to dial in desired torque.
- Two-speed transmission (high speed/low torque and high torque/low speed).
- Easy-to-locate Forward/Reverse bar.
- Rugged housing helps prevent damage from dropping and resists chemical damage from most automotive solvents.
- Kit includes driver/drill, battery pack and charger plus plastic storage case.
- EU/CE - DE, ES, FR, IT, UK, NL, European models.

CDR3150



CDR3450



Snap-on®

12 Volt Drills - 1/2" Capacity

CDR3150 Reversible Variable-Speed Driver/Drill Kit. Includes CDR3150DB Drill, CTB312 Battery Pack, CTB318 Charger, and PB127A Storage Case. One-year limited service warranty.

Specifications	CDR3150
Chuck Capacity, inches	1/2
Stall Torque, in. lbs. (N•m)	150 (17)
Free Speed, Drill Mode, RPM	0 - 1400
Free Speed, Drive Mode, RPM	0 - 400
Sound Power Level, dBA	86
Sound Pressure Level, dBA	77
Motor/Battery Voltage	12VDC
Weight w/Battery Pack, lbs. (kg)	4.4 (2.0)
Length, inches (cm)	9.82 (24.9)
Height, inches (cm)	9.81 (24.9)
Battery Type	Nickel-cadmium
Battery Life	600 cycles
Charge Time	approx 45 min.
Battery Pack	CTB312
Battery Charger	CTC318
Run Time*	40 holes / charge
Vibration Level	<2.5m/sec

CDR3150DB Cordfree Drill. Driver/drill only. Does not include battery pack, battery charger or storage case.

International Versions of CDR3150:

Same specifications as CDR3150 except for battery charger.

CDRA3150 Australian model. Uses CTCFA318 Charger.

CDRE3150 European model. Uses CTCFE318 Charger.

CDRJ3150 Japanese model. Uses CTCJ318 Charger.

CDRU3150 United Kingdom model. Uses CTCFU318 Charger.

*Run Time specification is based on the number of 1" holes in a 2" x 4" pine board using a 1" spade bit.

CDR3850



Snap-on®

18 Volt Drills - 1/2" Capacity

CDR3850 Cordfree Drill/Driver Kit. Includes driver/drill, battery pack, charger and PB127A plastic storage case.

Specifications	CDR3850
Chuck Capacity, inches	1/2
Stall Torque, in. lbs. (N•m)	350 (39.6)
Free Speed, Drill Mode, RPM	0-1700
Free Speed, Drive Mode, RPM	0 - 450
Sound Power Level, dBA	86
Motor/Battery Voltage	18VDC
Weight w/Battery Pack, lbs. (kg)	5.3 (2.4)
Length, inches (cm)	9.82 (24.9)
Height, inches (cm)	9.81 (24.9)
Battery Type	Nickel-cadmium
Battery Life	600 cycles
Charge Time	approx 45 min.
Battery Pack	CTB3185
Battery Charger	CTC318

CDR3850DB Cordfree Drill. Driver/drill only. Does not include battery pack, battery charger or storage case.

International Versions of CDR3850:

Same specifications as CDR3850 except for battery charger.

CDRA3850 Australian model. Uses CTCFA318 Charger.

CDRE3850 European model. Uses CTCFE318 Charger.

CDRJ3850 Japanese model. Uses CTCJ318 Charger.

CDRU3850 United Kingdom model. Uses CTCFU318 Charger.

Screwdrivers / Flashlights / Compressors Power Tools, Cordless

Screwdrivers

ETBS360A Cordless Screwdriver. Forward, reverse, and manual modes. 1/4" slip chuck accommodates most 1/4" power bits. Includes #2 PHILLIPS® and 5.5 slotted bits. 3.6V Ni-Cad battery recharges in about 3 hours. Includes ETC360 120VAC plug-in-style charger.

Specifications	ETBS360A
No Load Speed, RPM	170
Battery Voltage	3.6VDC
Stall Torque, in. lb.	23
Recharging Unit	ETC360
Charge Time	1 hour
Replacement Bulb	—

ETBS360A



ETBSLF3600



CTL3918



CTL918



ETL700



Flashlights

ETBSLF3600 Rechargeable Flashlight. Single charge lasts for two hours. Krypton bulb for maximum brightness. Ergonomic contoured handle. Blue housing with blue trim. Weight is .44 lbs. (0.20 kgs). Uses ETBSLB3600A battery pack and ETBSLC3600A Charger (not included).

CTL918 Rechargeable Flashlight. Operates on Snap-on® CTB Series 9.6V, 12V, 14.4V and 18V Battery Packs. 120° swivel head with detent every 10° for maximum flexibility. Adjustable strap with removable stainless steel hook. Clip inside lamp holds spare bulb. Housing resists impact, temperature and most automotive fluids. Tempered glass lens resists scratches. Bright 11W Xenon bulb (Phillips HPX60, 7.2V, 0.85 amp). Measures 11 1/4" x 3 7/16" x 3 1/4". Does not include battery pack or charger. UL Listed. EU/CE - DE, ES, FR, IT, UK, NL, European models.

Australia: Uses CTCFA318 Charger.

Europe: Uses CTCFE318 Charger.

Japan: Uses CTCJ318 Charger.

United Kingdom: Uses CTCFU318 Charger.

CTL3918 VERSA VOLT® Rechargeable Spotlight. Features a powerful 55-watt halogen bulb that generates 1,000,000 candle power. Current draw is 8.5 amps (High setting) and 3.5 amps (Low setting). Run Time (on High setting) is 31 minutes (18V batt.), 23 minutes (14.4V batt.), 20 minutes (12V batt.) and 10 minutes (9.6V batt.). Spotlight weight with 18V battery is 4.3 lbs.

ETL700 Rechargeable Flashlight. Features red and clear lenses, swivel head and three-position switch (on, off, and blinking). Does not include battery or charger.

Compressors

CTPS918 Cordless Compressor. Cordless convenience in a portable air compressor. Uses battery power (12V, 14.4V or 18V) or 12VDC from vehicle power source. Rating of 100 PSI. Average air consumption of .70 CFM at 32 PSI. 12VDC power cord is 16-gauge, 17 feet long. Inflation tubing is 3 1/2 feet long. Includes cordless flashlight.

Time To Fill P235/75R15 Tire To 32 PSI:

CTB312 Battery (12-volt) 7.5 minutes

CTB314 Battery (14.4-volt) 6.2 minutes

CTB3185 Battery (18-volt) 4.5 minutes

Vehicle Power (12-VDC) 5.7 minutes

Number of Tires on (1) Battery Pack:

CTB312 Battery (12-volt) 1 tire

CTB314 Battery (14.4-volt) 2 tires

CTB3185 Battery (18-volt) 4 tires

CTPS918



WARNING

- Do not use power tools above their maximum rated RPM.
- Read additional safety precautions on pages M1 to M4.



Power Tools, Cordless

Cordless Drill / Screwdriver Accessories



YA52PBSQC

PTND4K



Drill / Screwdriver Accessories

Specifications	YA52PBSQC
Fiat Tip Bits	5-6, 6-8, 8-10 (2), 10-12 (short) 6-8, 8-10, 10-12 (long)
Hex Bits	1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/32" (short) 5/32", 3/16", 7/32" (long)
PHILLIPS® Bits	#1, #2 (2), #3 (short) #1, #2, #3 (long)
Tamper Proof TORX® Bits	T10, T15, T20, T25, T27, T30, T40 (short and long)
Square Bits	#1, #2, #3 (short and long)
Clutch Bits	5/32", 3/16" (short and long)
Double End Bits	6-8 x #2 PHILLIPS®, 8-10 x #3 PHILLIPS®
Adaptors	1/4" hex female to 1/4" hex female, 1/4" hex male to 1/4" square male, 1/4" hex quick change chuck

PTND4K Nut Driver Kit. Ideal for use with cordless drills and screwdrivers. Drivers are manufactured from high grade 6150 steel. Magnets keep ferrous metal fasteners positioned in driver for fast installation and removal. Includes 1/4", 5/16", 3/8" and 1/2" magnetic drivers in plastic storage case.

PTNDM4K Metric Nut Driver Kit. Includes 8, 10, 12 and 14mm magnetic drivers in plastic storage case.

PTB10PDE PHILLIPS® Double End Power Tool Bits. Ideal for use with cordless drills and screwdrivers. Includes (10) double-end #2 PHILLIPS® power bits. All bits are 2 19/32" long with retention groove for a secure connection. Bits are manufactured from Chrome Vanadium S2 steel. Includes holder.

PTB10PDEL Long PHILLIPS® Double End Power Tool Bits. Same as PTB10PDE except all bits are 4" long.

PTB10PSEL PHILLIPS® Single End Power Tool Bits. Ideal for use with cordless drills and screwdrivers. Includes (5) long #1 and (5) long #2 PHILLIPS® power bits. All bits are 4 13/32" long with retention groove for secure connection. Bits are manufactured from Chrome Vanadium S2 steel. Includes holder.

PTB10UNV Universal Power Tool Bits. Ideal for use with cordless drills and screwdrivers. Bits are manufactured from Chrome Vanadium S2 steel. Includes holder. Set contains:

PHILLIPS® #1	Double End	1 13/16" long
PHILLIPS® #1	Double End	2 19/32" long
PHILLIPS® #2	Double End	1 13/16" long
PHILLIPS® #2	Double End	2 19/32" long
PHILLIPS® #2	Double End	4" long
PHILLIPS® #2	Single End	4 13/32" long
PHILLIPS® #2 Flat Tip	Double End	2 19/32" long
PHILLIPS® 6mm Flat Tip	Double End	2 19/32" long
PHILLIPS® #3	Double End	2 19/32" long

Cordless Batteries and Chargers

Cordless Battery Packs (Snap-on® CT and CDR Series Tools)

Stock No.	Battery Life, Cycles	Battery Type	Battery Voltage, VDC	Charge Time	Application/Use
CTB3092	600	Nickel-Cadmium	9.6VDC	45 minutes	All Snap-on® CT and CDR Series 9.6VDC Cordless tools and lights
CTB312	600	Nickel-Cadmium	12VDC	45 minutes	Use on all Snap-on® CT and CDR Series 12VDC Cordless tools and lights
CTB3124	600	Compact Ni-Cad	12VDC	45 minutes	Use on all Snap-on® CT and CDR Series 12VDC Cordless tools and lights
CTB314	600	Nickel-Cadmium	14.4 VDC	About 45 minutes	Use on all Snap-on® CT and CDR Series 14.4VDC Cordless tools and lights
CTB3185	600	Nickel-Cadmium	18VDC	about 45 minutes	Use on all Snap-on® CT and CDR Series 18VDC Cordless tools and lights

CTB312-100R Battery Housing Kit. Upper and lower 12-volt battery housing assemblies. Includes screws, latches and latch springs.

CTB314-100R Battery Housing Kit. Upper and lower 14.4-volt battery housing assemblies. Includes screws, latches and latch springs.

CTB3185-100R Battery Housing Kit. Upper and lower 18-volt battery housing assemblies. Includes screws, latches and latch springs.

CTB312



CTC318



CTC328



Cordless Battery Chargers (Snap-on® CT and CDR Series Tools)

CTC318. Charges 9.6, 12, 14.4 and 18-volt Snap-on® battery packs. Delivers a more complete charge that contributes to longer battery pack life. Switching power supply-type charger (no transformer). Micro-processor monitors battery pack status every 10 seconds. Red/green charging/full charge indicators. Will not charge hot battery pack. EU/CE - DE, ES, FR, IT, NL, UK, European models.

CTC328. Same as above. 12VDC input from vehicle cigarette lighter.

Stock No.	Country	Output Charge Current, AMP	Weight, lbs. (kg)	Cord Set
CTC318	U.S.	3.0	2.7 (1.25)	—
CTCFU318	United Kingdom	3.0	2.7 (1.25)	CTCU900
CTCFA318	Australia	3.0	2.7 (1.25)	CTCA900
CTCFE318	Europe	3.0	2.7 (1.25)	CTCE900
CTCJ318	Japan	3.0	2.7 (1.25)	—
CTC328	All	3.0	2.7 (1.25)	—

Cordless Battery Chargers and Packs (Blue-Point® ET Series Tools)

See DBH7 Drill Bit Set for Cordless Drills.

Stock No.	Input, VAC (Hz)	Output Charge Current, AMP	Weight, lbs.	Application/Use
ETC360	—	—	—	For ETBS360 and ETBSL365 Screwdrivers
ETBSLC3600A	—	—	—	For ETBSLF3600 Flashlight
ETC700	120 (50-60)	1.8	1.0	For ETL700

Battery Pack	Battery Life, cycles	Battery Type	Charge Time, hours	Application/Use
ETBSLB3600A	500	Ni-Cadmium	1	For ETBSLF3600 Flashlight
ETB700	500	Ni-Cadmium	1	For ETL700

Drills and Impact Wrench Power Tools, Electric



ET1803

- 55° Angle Head allows access in tight quarters.
- Variable speed, paddle-style trigger for maximum comfort and control.
- Reversible.
- Balanced, ergonomic design.
- Easy to use reversing switch.
- Alloy Steel gear train.
- Double Insulated Motor for longer life and greater durability.



ETB1300

- Double insulated 2.9 amp motor.
- Variable speed trigger with lock button.
- Reverse button easily operated with one hand.
- Durable impact resistant housing with belt clip.
- UL Listed. CSA Certified.

3/8" Capacity Drills

Stock No.	Description	Chuck Size, inches (mm)	Power VAC	AMPS (AC only)	No Load Speed, RPM	Horsepower	Length, inches	Weight, lbs. (kg)
ET1803	55° Angle Head	3/8 (10)	120VAC	3.5	0-1,300	.4	10 (254)	3.5 (1.6)
ETB1300	Reversible	3/8 (10) Keyless	120VAC	2.9	0-3,200	.5	—	3.08 (1.4)



ET1805

- 55° Angle Head allows access in tight quarters.
- Variable speed, paddle-style trigger for maximum comfort and control.
- Reversible.
- Balanced, ergonomic design.
- Easy to use reversing switch.
- Alloy Steel gear train.
- Double Insulated Motor for longer life and greater durability.



ETB1500

- Double insulated 5.0 amp motor.
- Variable speed trigger with lock button.
- Reverse button easily operated with one hand.
- Durable impact resistant housing with belt clip.
- UL Listed. CSA Certified.

1/2" Capacity Drills

Stock No.	Description	Chuck Size, inches (mm)	Power VAC	AMPS (AC only)	No Load Speed, RPM	Horsepower	Length, inches	Weight, lbs. (kg)
ET1805	55° Angle Head	Keyed 1/2 (13)	120VAC	3.5	0-750	0.4	10 (254)	3.5 (1.6)
ETB1500	Reversible	Keyed 1/2 (13)	120VAC	5.0	0-2,700	0.8	—	4.8 (2.2)
ETB1550	Hammer Drill	Keyed 1/2 (13)	120VAC	6.3	0-2,800	1.0	—	4.8 (2.2)



ETB1550

- Double insulated 6.3 amp motor.
- Variable speed trigger with lock button.
- Reverse button easily operated with one hand.
- Removable soft grip auxiliary handle.
- Durable impact resistant housing with belt clip.
- UL Listed. CSA Certified.



ETB1650

- One-handed Forward/Reverse Rocker Switch.
- Die-cast Aluminum Housing.
- Non-slip Comfort Grip Handle.
- Ball Bearing and Sleeve Mechanism.
- UL Listed. CSA Certified.

Impact Wrench

Stock No.	Drive Size, inches	Amp Rating (120V AC/DC)	No Load Speed, RPM	Blows per Minute	Maximum Torque, Ft. lb. (N•m)
ETB1650	1/2 (Hog Ring Anvil)	7.5	2,100	2,700	240 (325)



WARNING

- Do not use power tools above their maximum rated RPM.
- Read additional safety precautions on pages M1 to M4.



Power Tools, Electric

Grinders and Polishers



ETB1450

- 10,000 RPM Maximum Free Speed.
- Locking Trigger.
- Push Button Spindle Lock for Easy Wheel Change.
- Auxiliary Handle Attaches to Either Side.
- Includes Wrench and 5" Grinding Wheel.
- Built-in Stand and Adjustable Metal Spark Guard.
- UL Listed. CSA Certified.



ETB1445

- Double insulated 5.8 amp motor.
- Slim, lightweight housing.
- All ball bearing construction.
- Soft grip auxiliary handle.
- Spindle lock feature.
- UL Listed. CSA Certified.

Grinders

Stock No.	Amp Rating (120V AC/DC)	Power	No Load Speed, RPM	Max. Power Output, Watts/HP	Max. Dia. Backing Pad, inches	Spindle Thread, inches
ETB1450	7.5	120VAC, 60 Hz	10,000	750/1.0	5	5/8"-11
ETB1445	5.8	120VAC, 60 Hz	12,000	750/1.0	4 1/2	5/8"-11

ETA125A



Grinder Accessories

Use with ETB1450/ETB1445. Maximum rating of 12,000 RPM.

Stock No.	Size, inches	Grit
ETA125A	1/4 x 4 1/2 x 7/8	Coarse (24)
ETA250A	1/4 x 4 1/2 x 7/8	Coarse (24)

Polishers

Stock No.	Amp Rating (120V AC/DC)	Power	Max. Power Output, Watts	No Load Speed, RPM	Spindle Thread
ETB1570	7.5	120VAC	750	0-1,900	5/8"-11
ETB1580	9.0	120VAC	750	0-2,800	5/8"-11

ETB1580 (not shown)

- Variable speed adjustment lets user adjust the speed for different materials and applications.
- Push button spindle for quick pad changes.
- All ball bearing motor for longer life.
- Heat treated, precision-cut gears for smooth operation.
- External brush caps for easy servicing.
- Double insulated, 16-gauge power cord.
- Includes three position auxiliary handle and seven inch velcro pad.



ETB1570

- Variable speed adjustment (1100 to 1900 RPM) lets user adjust the speed for different materials and applications.
- Push button spindle for quick pad changes.
- All ball bearing motor for longer life.
- Heat treated, precision-cut gears for smooth operation.
- External brush caps for easy servicing.
- Double insulated, 16-gauge power cord.
- Includes three position auxiliary handle and seven inch velcro pad.

Specialty Electric Tools

GA236A



MT330



Engravers

GA236A Engraver. Marks all materials. Includes solid carbide tip. 240VAC model available on special order only.




GA236-32 Engraver Tip. Optional heavy-duty tip.

MT330 Etching Pencil. Use on 6V or 12V systems to etch virtually any metal. 4 1/2' flexible lead wire.

51902F. Replacement tip.

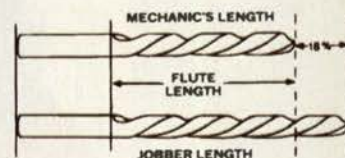
Jobber Length Cobalt -135° Split Point

The proven choice for heavy-duty drilling jobs. Ideal for use on heat-hardened exhaust manifold bolts, tempered steel springs, broken screw extractors, and other tough drilling jobs. Use CL6 Cutting Oil to maximize drill bit life.

	Size, inches		Size, inches		Size, inches
DBC1/16A	1/16	DBC7/32A	7/32	DBC3/8A	3/8
DBC5/64A	5/64	DBC15/64A	15/64	DBC25/64A	25/64
DBC3/32A	3/32	DBC1/4A	1/4	DBC13/32A	13/32
DBC7/64A	7/64	DBC17/64A	17/64	DBC27/64A	27/64
DBC1/8A	1/8	DBC9/32A	9/32	DBC7/16A	7/16
DBC9/64A	9/64	DBC19/64A	19/64	DBC29/64A	29/64
DBC5/32A	5/32	DBC5/16A	5/16	DBC15/32A	15/32
DBC11/64A	11/64	DBC21/64A	21/64	DBC31/64A	31/64
DBC3/16A	3/16	DBC11/32A	11/32	DBC1/2A	1/2
DBC13/64A	13/64	DBC23/64A	23/64		



DBC229A Jobber Length 135° Split Point Drill Bit Set.
DBC1/16A thru DBC1/2A (29 bits)
in B129C Metal Drill Index.



THUNDERBIT® Cobalt -135° Split Point

ThunderBit® For drilling at higher speeds in tougher drilling conditions. They feature 135° split points for easier drill starting without the need for center punching, heavy-duty web construction for higher strength and lower breakage, and improved chip ejection through a specially engineered flute design.

	Size, inches		Size, inches
DBTBC1/16	1/16	DBTBC19/64	19/64
DBTBC5/64	5/64	DBTBC5/16	5/16
DBTBC3/32	3/32	DBTBC21/64	21/64
DBTBC7/64	7/64	DBTBC11/32	11/32
DBTBC1/8	1/8	DBTBC23/64	23/64
DBTBC9/64	9/64	DBTBC3/8	3/8
DBTBC5/32	5/32	DBTBC25/64	25/64
DBTBC11/64	11/64	DBTBC13/32	13/32
DBTBC3/16	3/16	DBTBC27/64	27/64
DBTBC13/64	13/64	DBTBC7/16	7/16
DBTBC7/32	7/32	DBTBC29/64	29/64
DBTBC15/64	15/64	DBTBC15/32	15/32
DBTBC1/4	1/4	DBTBC31/64	31/64
DBTBC17/64	17/64	DBTBC1/2	1/2
DBTBC9/32	9/32		





DBTBC121 THUNDERBIT®
Cobalt 135° Split Point Drill Bit Set.
DBTBC1/16 thru DBTBC3/8 (21 bits)
in B121B Metal Drill Index.



DBTBC129 THUNDERBIT®
Cobalt 135° Split Point Drill Bit Set.
DBTBC1/16 thru DBTBC1/2 (29 bits) in
B129B Metal Drill Index.

High Speed Steel Drill Bits

THUNDERBIT® Jobber Length -135° Split Point

	Size, inches		Size, inches		Size, inches
DBTB1/16	1/16	DBTB7/32	7/32	DBTB3/8	3/8
DBTB5/64	5/64	DBTB15/64	15/64	DBTB25/64	25/64
DBTB3/32	3/32	DBTB1/4	1/4	DBTB13/32	13/32
DBTB7/64	7/64	DBTB17/64	17/64	DBTB27/64	27/64
DBTB1/8	1/8	DBTB9/32	9/32	DBTB7/16	7/16
DBTB9/64	9/64	DBTB19/64	19/64	DBTB29/64	29/64
DBTB5/32	5/32	DBTB5/16	5/16	DBTB15/32	15/32
DBTB11/64	11/64	DBTB21/64	21/64	DBTB31/64	31/64
DBTB3/16	3/16	DBTB11/32	11/32	DBTB1/2	1/2
DBTB13/64	13/64	DBTB23/64	23/64		



DBTB121 Jobber Length THUNDERBIT®
135° Split Point Set. DBTB1/16 thru DBTB3/8
(21 bits) in B121B Metal Drill Index.



DBTB129 Jobber Length THUNDERBIT®
135° Split Point Set. DBTB1/16 thru DBTB1/2 (29 bits) in B129B Metal Drill Index.

ThunderBit®

Made of industrial grade steel with a bronze oxide surface treatment, these bits will drill at higher speeds in tougher drilling conditions. They feature 135° split points for easier drill starting without the need for center punching, heavy-duty web construction for higher strength and lower breakage, and improved chip ejection through a specially engineered flute design.

WARNING

• Read additional safety precautions on pages M1 to M4.

See Warranty Information on inside front cover.

Drilling High Speed Drill Bits

An excellent choice for general drilling applications. Use CL6 Cutting Oil to maximize drill bit life.

DB129C Jobber Length-118° Point Drill Bit Set.



DBF1/16C thru DBF1/2C (29 bits) in B129C Metal Drill Index.



DB113C Jobber Length-118° Point Drill Bit Set. DBF1/16C thru DBF1/4C (13 bits) in B113B Metal Drill Index.



Jobber Length - 118° Point

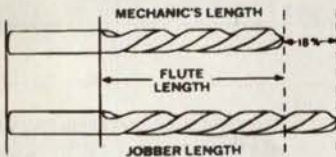
	Size, inches		Size, inches
DBF1/16C	1/16	DBF19/64C	19/64
DBF5/64C	5/64	DBF5/16C	5/16
DBF3/32C	3/32	DBF21/64C	21/64
DBF7/64C	7/64	DBF11/32C	11/32
DBF1/8C	1/8	DBF23/64C	23/64
DBF9/64C	9/64	DBF3/8C	3/8
DBF5/32C	5/32	DBF25/64C	25/64
DBF11/64C	11/64	DBF13/32C	13/32
DBF3/16C	3/16	DBF27/64C	27/64
DBF13/64C	13/64	DBF7/16C	7/16
DBF7/32C	7/32	DBF29/64C	29/64
DBF15/64C	15/64	DBF15/32C	15/32
DBF1/4C	1/4	DBF31/64C	31/64
DBF17/64C	17/64	DBF1/2C	1/2
DBF9/32C	9/32		

DB121C




Jobber Length-118° Point Drill Bit Set. DBF1/16C thru DBF3/8C (21 bits) in B121C Metal Drill Index.



DB115C Jobber Length-118° Point Drill Bit Set. DBF1/16C, DBF3/32C, DBF1/8C, DBF5/32C, DBF3/16C, DBF7/32C, DBF1/4C, DBF9/32C, DBF5/16C, DBF11/32C, DBF3/8C, DBF13/32C, DBF7/16C, DBF15/32C and DBF1/2C (15 bits) in B115A Metal Drill Index.





1/2" Reduced Shank Drill Bits - 118° Point

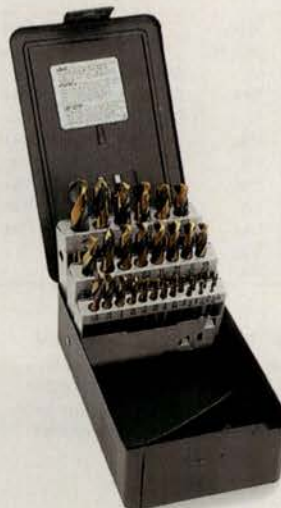
	Size, inches		Size, inches		Size, inches
CSE345B	17/32	CSE445B	11/16	CSE565B	7/8
CSE365B	9/16	CSE465B	23/32	* CSE575	59/64
* CSE375	37/64	* CSE475	47/64	CSE605B	15/16
CSE385B	19/32	CSE485B	3/4	CSE645B	1
CSE405B	5/8	CSE505B	25/32	* CSE675	1 5/32
CSE425B	21/32	CSE525B	13/16		

Mechanic's Length - 135° Point

3-Flat Shank

	Size, inches		Size, inches		Size, inches
Straight Shank:					
DBTR1/16	1/16	DBTR7/32	7/32	DBTR25/64	25/64
DBTR5/64	5/64	DBTR15/64	15/64	DBTR13/32	13/32
DBTR3/32	3/32	DBTR1/4	1/4	DBTR27/64	27/64
DBTR7/64	7/64	DBTR17/64	17/64	DBTR7/16	7/16
DBTR1/8	1/8	DBTR9/32	9/32	DBTR29/64	29/64
DBTR9/64	9/64	DBTR19/64	19/64	DBTR15/32	15/32
DBTR5/32	5/32	DBTR5/16	5/16	DBTR31/64	31/64
DBTR11/64	11/64	DBTR21/64	21/64	DBTR1/2	1/2
DBTR3/16	3/16	DBTR11/32	11/32		
DBTR13/64	13/64	DBTR23/64	23/64		
		DBTR3/8	3/8		

DBTR129 Mechanic's Length 118° Point Combination Set. DBTR1/16 thru DBTR1/2 (29 bits) in B129C Metal Drill Index.



High Speed Drill Bits Drilling

Wire Gauge - 118° Point Cobalt and High Speed Steel

DBC260A



DB120C



		Decimal Equivalent, inches	Length, inches			Decimal Equivalent, inches	Length, inches
DBCE1A	DBE1B	.2280	3 7/8	DBCE41A	DBE41B	.0960	2 3/8
DBCE2A	DBE2B	.2210	3 7/8	DBCE42A	DBE42B	.0935	2 1/4
DBCE3A	DBE3B	.2130	3 3/4	DBCE43A	DBE43B	.0890	2 1/4
DBCE4A	DBE4B	.2090	3 3/4	DBCE44A	DBE44B	.0860	2 1/8
DBCE5A	DBE5B	.2055	3 3/4	DBCE45A	DBE45B	.0820	2 1/8
DBCE6A	DBE6B	.2040	3 3/4	DBCE46A	DBE46B	.0810	2 1/8
DBCE7A	DBE7B	.2010	3 5/8	DBCE47A	DBE47B	.0785	2
DBCE8A	DBE8B	.1990	3 5/8	DBCE48A	DBE48B	.0760	2
DBCE9A	DBE9B	.1960	3 5/8	DBCE49A	DBE49B	.0730	2
DBCE10A	DBE10B	.1935	3 5/8	DBCE50A	DBE50B	.0700	2
DBCE11A	DBE11B	.1910	3 1/2	DBCE51A	DBE51B	.0670	2
DBCE12A	DBE12B	.1890	3 1/2	DBCE52A	DBE52B	.0635	1 7/8
DBCE13A	DBE13B	.1850	3 1/2	DBCE53A	DBE53B	.0595	1 7/8
DBCE14A	DBE14B	.1820	3 3/8	DBCE54A	DBE54B	.0550	1 7/8
DBCE15A	DBE15B	.1800	3 3/8	DBCE55A	DBE55B	.0520	1 7/8
DBCE16A	DBE16B	.1770	3 3/8	DBCE56A	DBE56B	.0465	1 3/4
DBCE17A	DBE17B	.1730	3 3/8	DBCE57A	DBE57B	.0430	1 3/4
DBCE18A	DBE18B	.1695	3 1/4	DBCE58A	DBE58B	.0420	1 3/8
DBCE19A	DBE19B	.1660	3 1/4	DBCE59A	DBE59B	.0410	1 3/8
DBCE20A	DBE20B	.1610	3 1/4	DBCE60A	DBE60B	.0400	1 3/8
DBCE21A	DBE21B	.1590	3 1/4	DBE61B		.0390	1 3/8
DBCE22A	DBE22B	.1570	3 1/8	DBE62B		.0380	1 1/2
DBCE23A	DBE23B	.1540	3 1/8	DBE63B		.0370	1 1/2
DBCE24A	DBE24B	.1520	3 1/8	DBE64B		.0360	1 1/2
DBCE25A	DBE25B	.1495	3	DBE65B		.0350	1 1/2
DBCE26A	DBE26B	.1470	3	DBE66B		.0330	1 3/8
DBCE27A	DBE27B	.1440	3	DBE67B		.0320	1 3/8
DBCE28A	DBE28B	.1405	2 7/8	DBE68B		.0310	1 3/8
DBCE29A	DBE29B	.1360	2 7/8	DBE69B		.0295	1 3/8
DBCE30A	DBE30B	.1285	2 3/4	DBE70B		.0280	1 1/4
DBCE31A	DBE31B	.1200	2 3/4	DBE71B		.0260	1 1/4
DBCE32A	DBE32B	.1160	2 3/4	DBE72B		.0250	1 1/8
DBCE33A	DBE33B	.1130	2 5/8	DBE73B		.0240	1 1/8
DBCE34A	DBE34B	.1110	2 5/8	DBE74B		.0225	1
DBCE35A	DBE35B	.1100	2 5/8	DBE75B		.0210	1
DBCE36A	DBE36B	.1065	2 1/2	DBE76B		.0200	7/8
DBCE37A	DBE37B	.1040	2 1/2	DBE77B		.0180	7/8
DBCE38A	DBE38B	.1015	2 1/2	DBE78B		.0160	7/8
DBCE39A	DBE39B	.0995	2 3/8	DBE79B		.0145	3/4
DBCE40A	DBE40B	.0980	2 3/8	DBE80B		.0135	3/4

DBC260A Cobalt Drill Bit Set. DBCE1A thru DBCE60A (60 pcs) (.2280" to .0400") in DB160C Metal Index.
DB160C High-Speed Drill Bit Set. DBE1B thru DBE60B (60 pcs) (.2280" to .0400") in DB160C Metal Index.
DB120C High-Speed Drill Bit Set. DBE61B thru DBE80B (20 pcs) (.0390" to .0135") in H120B Plastic Index.

Letter Size, Jobber Length - 118° Point

Size	Size	Size
DBAA1A .234(A)	DBAA1J .277(J)	DBAA1S .348(S)
DBAA1B .238(B)	DBAA1K .281(K)	DBAA1T .358(T)
DBAA1C .242(C)	DBAA1L .290(L)	DBAA1U .368(U)
DBAA1D .246(D)	DBAA1M .295(M)	DBAA1V .377(V)
DBAA1E .250(E)	DBAA1N .302(N)	DBAA1W .386(W)
DBAA1F .257(F)	DBAA1O .316(O)	DBAA1X .397(X)
DBAA1G .261(G)	DBAA1P .323(P)	DBAA1Y .404(Y)
DBAA1H .266(H)	DBAA1Q .332(Q)	DBAA1Z .413(Z)
DBAA1I .272(I)	DBAA1R .339(R)	

DBA126B Jobber Length Letter Size 118° Point Drill Bit Set.
 DBAA1A thru DBAA1Z (26 pcs) (.234" to .413") in B126C Metal Index.

Metric Size, Jobber Length - 118° Point

Size	Size	Size
DBM1A 1mm	DBM5A 5mm	DBM9A 9mm
DBM1.5A 1.5mm	DBM5.5A 5.5mm	DBM9.5A 9.5mm
DBM2A 2mm	DBM6A 6mm	DBM10A 10mm
DBM2.5A 2.5mm	DBM6.5A 6.5mm	DBM10.5A 10.5mm
DBM3A 3mm	DBM7A 7mm	DBM11A 11mm
DBM3.5A 3.5mm	DBM7.5A 7.5mm	DBM11.5A 11.5mm
DBM4A 4mm	DBM8A 8mm	DBM12A 12mm
DBM4.5A 4.5mm	DBM8.5A 8.5mm	DBM12.5A 12.5mm
		DBM13A 13mm

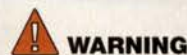
DBM125C Metric Jobber Length 118° Point Drill Bit Set.
 DBM1A thru DBM13A (25 pcs) (1mm to 13mm) in B125C Metal Index.
DBM111B Metric Jobber Length 118° Point Drill Bit Set.
 DBM1A thru DBM6A (11 pcs) (1mm to 6mm) in B111C Metal Index.

*Use CL6 Cutting Oil to
maximize drill bit life.*

DBA126B



DBM125C



WARNING
 • Read additional safety precautions on pages M1 to M4.

See Warranty Information on inside front cover.

Drilling Specialized Drill Bits



DBD110A



DBK7A

Double-Ended Drill Bits - 135° Split Point

Size	Size	Size	Size
DBD9/64A	9/64	DBD7/32A	7/32
DBD1/8A	1/8	DBD1/4A	1/4
DBD7/64A	7/64	DBD11A	#11
DBD5/32A	5/32	DBD20A	#20
DBD3/16A	3/16	DBD30A	#30

DBD110A Double-Ended Drill Bit Set.

DBD7/64A thru DBD30A (10 pcs) (7/64" to #30) in a plastic pouch.



SBW2217C Wood Auger (11/16"). Quickly attaches to 1/2" square drive impact wrenches without the need for a special chuck. 12" flute. 17" long.

YA1MT



Titanium-Nitride UNIBIT® Step Drills

The titanium-nitride coating creates a surface hardness that makes these tools last 4 to 5 times longer than ordinary drill bits. That same surface reduces friction, resulting in a tool that runs cooler and, in effect, self-lubricates while running dry.

Size Range	Increments	Shank Size, inches	Hole Sizes per Bit	Length, inches
1/8"-1/2"	1/32"	YA1T 1/4"	13	3 1/4
3/16"-1/2"	1/16"	YA2T 1/4"	6	3 1/4
1/4"-3/4"	1/16"	YA3T 3/8"	9	2 5/8
3/16"-7/8"	1/16"	YA4T 3/8"	12	3
4mm-12mm	1mm	YA1MT 1/4"-6.5mm	9	3 1/4
4 mm-12mm	2mm	YA2MT 1/4"-6.5mm	5	3 1/4
6 mm-18mm	2mm	YA3MT 3/8"-10mm	7	2 5/8
4 mm-22mm	2mm	YA4MT 3/8"-10mm	10	3
5 mm-35mm	2-3mm	YA5MT 1/2"-13mm	13	3 3/32

YA261



UNIBIT® Step Drills

Size Range, inches	Increments, inches	Stock No.	Shank Size, inches	Hole Sizes per Bit	Length, inches
1/8"-1/2"	1/32"	YA261	1/4	13	3 1/4
3/16"-1/2"	1/16"	YA262	1/4	6	3 3/8
1/4"-3/4"	1/16"	YA263	3/8	9	2 5/8
3/8"	—	YA265	1/4	1	1 5/8
1/2"	—	YA264	1/4	1	1 3/4
3/16"-7/8"	1/16"	YA267	3/8	12	3
3/16"-1"	1/16"	YA266	1/4	8	2 1/2

YAS203 UNIBIT® Step Drill Set. Includes YA261, YA262, YA263(3 pcs).

Aircraft Length - 135° Split Point

Extra-long bits for drilling thick materials.

Size, inches	Flute Length, inches	Length, inches
DBT1/8A	1 5/8	12
DBT3/16A	2 1/4	12
DBT1/4A	2 3/4	12
DBT5/16A	3 1/4	12
DBT3/8A	3 3/4	12
DBT7/16A	4	12
DBT1/2A	4 1/2	12

DBK7A Aircraft Drill Bit Set.

DBT1/8A thru DBT1/2A (7 pcs) in DBK7A-1 Kit Bag.

YA409



YA409 90° Angle Drill Set

Originally designed for use in aerospace applications. Allows drilling up to 1/4" holes in confined areas by positioning the bit at a 90° angle to the drill. Threaded drill bits provide consistent concentricity and eliminate slippage.

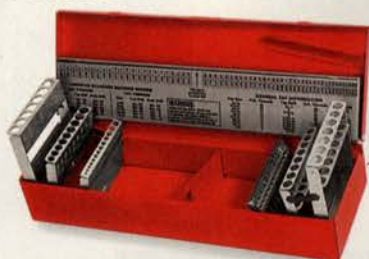
Set includes:

YA409 Drive unit, chucking spud	YA409-316M	3/16" bit, 1 1/4" long
YA409-18L 1/8" bit, 2 1/8" long	YA409-332L	3/32" bit, 2 1/8" long
YA409-18M 1/8" bit, 1 1/4" long	YA409-532M	3/32" bit, 1 1/4" long
YA409-18S 1/8" bit, 3/4" long	YA409-15	Plastic Case

Accessories for YA409 Set

Size	2 1/8" Long Bit Stock No.	1 1/4" Medium Bit Stock No.	3/4" Short Bit Stock No.
#10	YA409-10L	YA409-10M	YA409-10S
#11	—	YA409-11M	YA409-11S
#13	—	—	YA409-13S
#20	YA409-20L	YA409-20M	YA409-20S
#21	—	—	YA409-21S
#27	—	YA409-27M	YA409-27S
#30	YA409-30L	YA409-30M	YA409-30S
#40	YA409-40L	YA409-40M	YA409-40S
1/16"	YA409-116L	—	—
5/64"	—	YA409-564M	—
3/32"	YA409-332L	YA409-332M	YA409-332S
7/64"	—	YA409-764M	YA409-764S
1/8"	YA409-18L	YA409-18M	YA409-18S
9/64"	YA409-964L	—	—
5/32"	YA409-532L	YA409-532M	YA409-532S
11/64"	YA409-1164L	YA409-1164M	YA409-1164S
3/16"	YA409-316L	YA409-316M	YA409-316S
13/64"	YA409-1364L	YA409-1364M	—
7/32"	—	YA409-732M	—
1/4"	YA409-14L	YA409-14M	YA409-14S

Accessories



B1115A Metal Drill Bit Index. Holds 115 drill bits. Clearly marked trays lift to upright position for quick selection. 14 1/8" L x 4 1/8" W x 2 1/2" D. 29-Piece Fractional Drill Bit Sets, 60-Piece Wire Gauge Drill Bit Sets, 26-Piece Letter Drill Bit Set.



R120 Tapered Reamer. Tapers from 1/8" to 1/2". Ideal for removing burrs and enlarging holes. Includes crossbar.

R121 Tapered Reamer. Tapers from 1/2" to 1". Similar to R120 but has a 3/8" square head for use with socket wrenches when extra torque is required.

YA806 Pin Vise. Features a thumb pressure swivel head. Includes two double-ended collets enclosed within the tool. Capacity is 0" to 1/8" (.125") (3.2 mm).



DEBUR300 Deburring Tool. Easily deburr drilled and machined holes. Pushbutton locking collet enables quick, easy blade changes. Includes three round head deburring blades. Blades conveniently store in handle of tool. Weighs 1 pound. 6" long.

YA246A Tip Drill. Applications include fuel injectors, fuel lines, welding and soldering torch tips, shower heads, water jets, electronics and hobbies. Knurled surface at chuck end of pin vise provides a sure gripping surface. Long 1.88" (47.6mm) drill length. Plastic coated handle for comfort. Includes pin vise and twelve precision HSS twist drills from .0635" to .0225", numbers 52 to 74 in plastic storage case.



Hole Saws



Each hole saw has a high-speed cutting edge welded to an alloy steel back to absorb shocks. Designed to cut clean, accurate holes in steel and cast iron pipe, steel plates, aluminum, copper, brass, stainless steel, wood, or plastic. Side slits make it easy to knock the spent disks.

	Dia., inches	Recommended Arbors		Dia., inches	Recommended Arbor
LHS18D	9/16	LHS1C, LHS6C	LHS68D	2 1/4	LHS3D
LHS20D	5/8	LHS1C, LHS6C	LHS72D	2 1/4	LHS3D
LHS22D	11/16	LHS1C, LHS6C	LHS76D	2 3/8	LHS3D
LHS24D	3/4	LHS1C, LHS6C	LHS80D	2 1/2	LHS3D
LHS26D	13/16	LHS1C, LHS6C	LHS82D	2 9/16	LHS3D
LHS28D	7/8	LHS1C, LHS6C	LHS84D	2 5/8	LHS3D
LHS30D	15/16	LHS1C, LHS6C	LHS88D	2 3/4	LHS3D
LHS32D	1	LHS1C, LHS6C	LHS92D	2 7/8	LHS3D
LHS34D	1 1/16	LHS1C, LHS6C	LHS96D	3	LHS3D
LHS36D	1 1/8	LHS1C, LHS6C	LHS100D	3 1/8	LHS3D
LHS38D	1 3/16	LHS1C, LHS6C	LHS104D	3 1/4	LHS3D
LHS40D	1 1/4	LHS3D	LHS108D	3 3/8	LHS3D
LHS42D	1 5/16	LHS3D	LHS112D	3 1/2	LHS3D
LHS44D	1 3/8	LHS3D	LHS116D	3 5/8	LHS3D
LHS46D	1 7/16	LHS3D	LHS120D	3 3/4	LHS3D
LHS48D	1 1/2	LHS3D	LHS128D	4	LHS3D
LHS50D	1 9/16	LHS3D	LHS132D	4 1/8	LHS3D
LHS52D	1 5/8	LHS3D	LHS136D	4 1/4	LHS3D
LHS54D	1 11/16	LHS3D	LHS144D	4 1/2	LHS3D
LHS56D	1 3/4	LHS3D	LHS148D	4 3/4	LHS3D
LHS58D	1 13/16	LHS3D	LHS152D	5	LHS3D
LHS60D	1 7/8	LHS3D	LHS168D	5 1/2	LHS3D
LHS64D	2	LHS3D	LHS184D	6	LHS3D
LHS66D	2 1/16	LHS3D			

LHS608B Hole Saw and Arbor Set. Includes LHS44D, LHS48D, LHS56D, LHS64D, LHS80D and LHS96D Hole Saws plus LHS6C and LHS3D Arbors and LHS8C Arbor Adaptor (9 pcs) in plastic case. Recommended speed charts are included.

LHS606D Hole Saw and Arbor Set. Includes LHS24D, LHS28D, LHS32D, LHS36D and LHS40D Hole Saws plus LHS6C Arbor and LHS8C Arbor Adaptor (7 pcs) in plastic case. Recommended speed charts are included.

See Warranty Information on inside front cover.



GA219B Hole Cutter Set. Cuts holes in sheet metal, pipe, plastic, and wood up to 1/4" thick. Special design helps prevent clogging so cutting need not be interrupted to clear chips. Includes 7 high-speed steel cutters (5/16", 3/8", 7/16", 1/2", 9/16", 5/8", and 3/4"), an arbor with a spring-loaded pilot guide, a hex wrench, an extra pilot and stop, and spacer washers in a plastic case.



Hole Saw Arbors and Pilot Drills

	Thread Size	Fits Saws, inches	Fits Drill Chuck, inches	Replacement Pilot Drill
LHS5C	1/2"-20	9/16 - 1 3/16	1/4	LHS4D
LHS6C	1/2"-20	9/16 - 1 3/16	3/8	LHS7C
LHS1C	1/2"-20	9/16 - 1 3/16	1/2	LHS4D
LHS3D	5/8"-18	1 1/4 - 6	3/8	LHS7C
LHS8C	Arbor adaptor to convert 1/2"-20 thread to 5/8"-18			

WARNING

• Read additional safety precautions on pages M1 to M4.



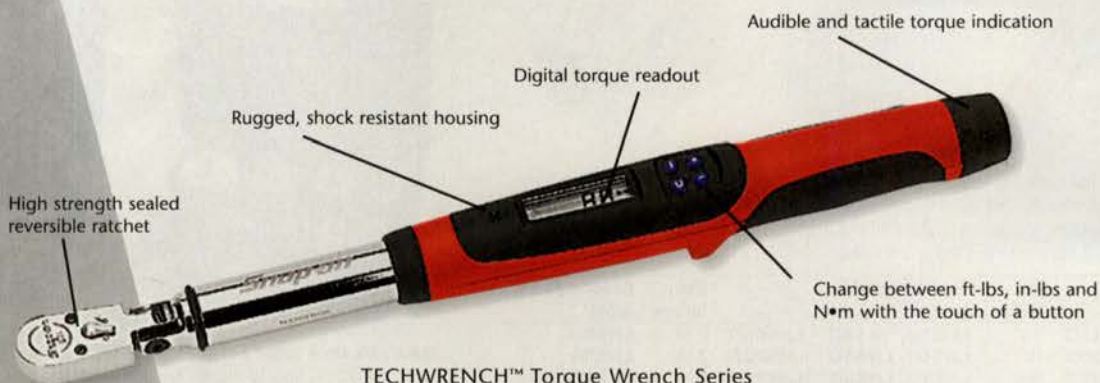
TORQUE

Measuring & Testing

Snap-on® gives you more ways to turn more fasteners than anyone else, and most importantly, we give you all the options you need to tighten them correctly. Snap-on® gives you the advantage of the largest selection of torque tools, so whether you are looking for torque screwdrivers or full featured calibration systems, we have the products in the styles and the ranges you need.

These are the products that have earned their reputation in the real world where it matters most – in the factories and shops, in the field and in the laboratories. They are products trusted to build jet engines and farm tractors, spacecraft and machine tools, nuclear reactors and automobiles. Wherever rotating assemblies or high stresses occur, that's where you'll find the world's finest torque products.

You'll know them when you see them. They're all branded Snap-on®.
Because Nothing Even Comes Close™.



TECHWRENCH™ Torque Wrench Series

- Cutting edge torque wrenches
- Memory models store and download data
- "D" series software prevents inadvertent presets
- Accurate to within 2% clockwise, 3% counterclockwise on flex head models



TTC2800 Calibrator

- Top of the line tester and calibrator with mechanized loading

What You Need To Know About Accuracy... For All Mechanical Click-Type Wrenches.

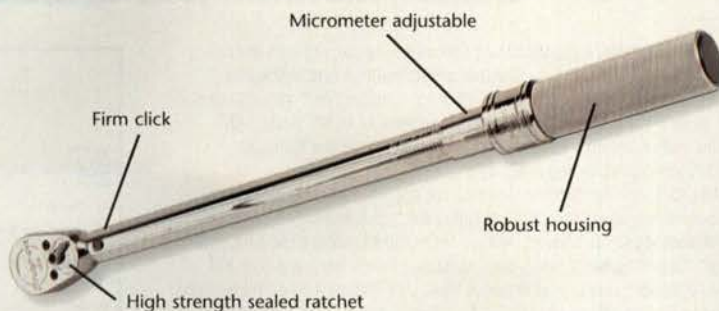
The ANSI Standard allows 4% of reading error between 20% and 100% of wrench capacity. Below 20% ANSI allows an error in reading equal to 0.8% of wrench capacity.

What Does This Mean To You?

Using a wrench at 5% of its full scale may result in up to 16% error in reading. How can you be sure you are anywhere near the fastener torque specification?

Use Caution When Buying Torque Wrenches Rated Below 20% of Full Scale.

Torque wrenches that are scaled below 20% of full scale may not be accurate and may lead users to operate them below their useful range. Select a torque wrench so your working range falls near the mid point of its capacity.



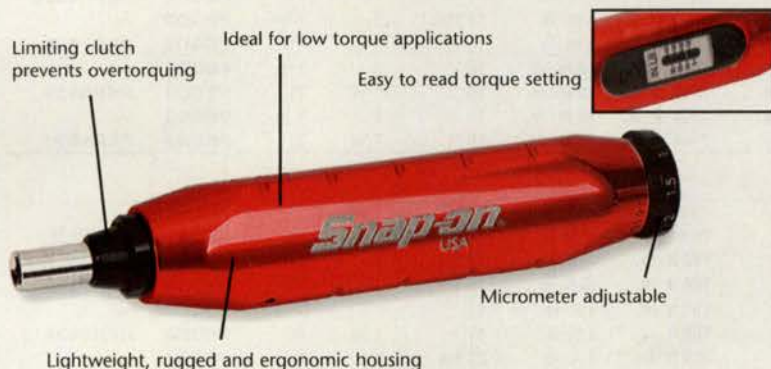
QD Series Torque Wrenches

- Adjustable, preset and interchangeable head models
- Accurate to within 4% clockwise and 6% counterclockwise



TE Series Dial Wrenches

- Direct reading accurate to within 3%
- Ideal for torque verification



QDRIVER™ Series Torque Drivers

- Adjustable and Preset models
- Accurate to within 6% clockwise




TQ Series Torque Wrenches

- Durable split beam style torque wrench
- No need to zero after use
- 4% accurate in clockwise direction only

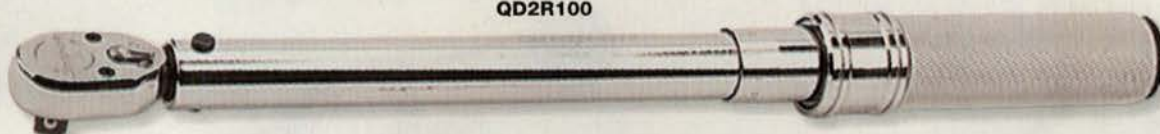
Torque Adjustable Click-Type

The QD Series of Click-Type Torque Instruments feature an innovative design that provides consistently accurate readings and rugged, troublefree performance.

- **Certificate of Calibration.** A Certificate of Calibration is packed with every QD Series Torque Instrument. Actual certification readings and individual instrument serial number are included. Each torque instrument, as calibrated at the factory, is certified to meet the accuracy specified in ASME B107.14M-1994 and was calibrated on a torque standard traceable to the National Institute of Standards Technology (NIST).
- **Accuracy.** All QD Series Torque Instruments are accurate to $\pm 4\%$ clockwise and $\pm 6\%$ counterclockwise from 20% of full scale to full scale.
- **Long Life Ratchet Head.** QD Series Torque Instruments feature the Snap-on® High Strength Sealed Ratchet Head. Sealed ratchet heads keep out dirt and moisture while being virtually maintenance free. U.S. Patent 4,934,220 applies to all QD Series Ratchet Head Models. U.S. Patent 6,125,722 applies to 1/4", 3/8" and 1/2" drive Ratchet Head Models only.
- **Minimal Friction "Hour Glass" Cam.** Retains and releases lubricant where needed to reduce friction.
- **Laser Marked Scale.** Easier reading with varying light sources.
- **Positive Stop.** Instrument can not be accidentally disassembled if wound down past scale.
- **Long-Term Protection.** Each instrument includes a storage case.

					
Certificate of Calibration					
Model No.	QD2FR75	Serial Number	0198492147		
Type	Micrometer adjustable	Calibration equipment	CDI Digitest 9500T		
Range	15.00 ft-lb - 75.00 ft-lb	Accuracy of calibrator	.25%		
Manufacturer	Snap-on				
Set Torque (ft-lb)		Readings (ft-lb)			
Clockwise torque (Tolerance: 4.0%)					
15.00	15.11 0.7%	15.11 0.7%	15.11 0.7%	15.11 0.7%	15.11 0.7%
45.00	44.44 -1.2%	44.44 -1.2%	44.44 -1.2%	44.44 -1.2%	44.44 -1.2%
75.00	75.86 1.3%	77.13 2.8%	77.13 2.8%	77.13 2.8%	77.13 2.8%
Counterclockwise torque (Tolerance: 6.0%)					
15.00	15.23 1.5%	15.23 1.5%	15.23 1.5%	15.13 0.9%	15.55 3.7%
45.00	45.30 0.7%	45.30 0.7%	45.30 0.7%	45.30 0.7%	45.30 0.7%
75.00	72.32 -3.6%	72.32 -3.6%	72.32 -3.6%	72.32 -3.6%	72.32 -3.6%
Result: Measured values are within tolerance according to : ISO 6789					
Date	1/21/98	Operator	Eric Brathwaite	Supervisor	Gilbert Cervantes
Calibration is performed by comparison with reference standards which have been calibrated by a recognized NIST-laboratory and are therefore traceable to the National Institute of Standards and Technology. The user of this certificate bears sole responsibility for calibration and documentation thereof. Duplication of this certificate or parts thereof is prohibited.					

QD2R100



U.S. Torque Wrenches (in. lb.)

Square Drive, inches	Stock No.	Head Style	Gear Teeth	Gear Action	Range,		Increments	Length, inches	Head Width, inches	Head Depth, inches	Storage Case	Ratchet Service Kit
1/4	QD150	Fixed	—	—	10 in. lb.	50 in. lb.	.5 in. lb.	9 3/4	5/8	1 1/16	PBQD1	—
	QD1R50	Fixed-Ratchet	36	10°	10 in. lb.	50 in. lb.	.5 in. lb.	9 7/8	7/8	7/16	PBQD1	RKRT936
	QD1200	Fixed	—	—	40 in. lb.	200 in. lb.	1 in. lb.	10 15/16	5/8	1 3/16	PBQD1	—
	QD1R200	Fixed-Ratchet	36	10°	40 in. lb.	200 in. lb.	1 in. lb.	11 1/16	7/8	7/16	PBQD1	RKRT936
3/8	QD2R200	Compact-Ratchet	36	10°	40 in. lb.	200 in. lb.	1 in. lb.	11 1/16	7/8	7/16	PBQD2	RKRF936
	QD21000	Fixed	—	—	200 in. lb.	1000 in. lb.	5 in. lb.	14 9/16	1	1 3/16	PBQD2	—
	QD2R1000	Fixed-Ratchet	36	10°	200 in. lb.	1000 in. lb.	5 in. lb.	15 5/16	1 5/32	9/16	PBQD2	RKRF936
1/2	QD31600	Fixed	—	—	320 in. lb.	1600 in. lb.	10 in. lb.	18	1	1 1/4	PBQD3	—
	QD3R1600	Fixed-Ratchet	36	10°	320 in. lb.	1600 in. lb.	10 in. lb.	19	1 5/8	3/4	PBQD3	RKRS936
	QD32500	Fixed	—	—	500 in. lb.	2500 in. lb.	10 in. lb.	18 1/8	1	1 1/4	PBQD3	—
	QD3R2500	Fixed-Ratchet	36	10°	500 in. lb.	2500 in. lb.	10 in. lb.	19 1/8	1 5/8	3/4	PBQD3	RKRS936

U.S. Torque Wrenches (ft. lb.)

3/8	QD275	Fixed	—	—	5 ft. lb.	75 ft. lb.	.5 ft. lb.	14 9/16	1	1 3/16	PBQD2	—
	QD2FR75	Flex-Ratchet	36	10°	5 ft. lb.	75 ft. lb.	.5 ft. lb.	15 3/4	1 5/32	9/16	PBQD2	RKRF936
	QD2100	Fixed	—	—	20 ft. lb.	100 ft. lb.	.5 ft. lb.	14 9/16	1	1 3/16	PBQD2	—
	QD2R100	Fixed-Ratchet	36	10°	20 ft. lb.	100 ft. lb.	.5 ft. lb.	15 5/16	1 5/32	9/16	PBQD2	RKRF936
1/2	QD3150	Fixed	—	—	30 ft. lb.	150 ft. lb.	1 ft. lb.	18	1	1 1/4	PBQD3	—
	QD3R150	Fixed-Ratchet	36	10°	30 ft. lb.	150 ft. lb.	1 ft. lb.	19	1 5/8	3/4	PBQD3	RKRS936
	QD3250	Fixed	—	—	50 ft. lb.	250 ft. lb.	1 ft. lb.	23 3/16	1	1 1/4	PBQD3	—
	QD3R250	Fixed-Ratchet	36	10°	50 ft. lb.	250 ft. lb.	1 ft. lb.	24 3/16	1 5/8	3/4	PBQD3	RKRS936
	BRUTUS3R250D	Fixed-Ratchet	36	10	50 ft. lbs.	250 ft. lbs.	1 ft. lb.	28	1 3/8	3/4	—	RKRS936
3/4	QD4400	Fixed	—	—	80 ft. lb.	400 ft. lb.	2.5 ft. lb.	33 3/4	1 1/2	1 1/2	PBQC4	—
	QD4R400	Fixed-Ratchet	32	11°	80 ft. lb.	400 ft. lb.	2.5 ft. lb.	35 3/4	2 1/2	1 1/4	PBQC4	RKRQC4
	QD4600	Fixed	—	—	120 ft. lb.	600 ft. lb.	5 ft. lb.	40 3/4	1 1/2	1 1/2	PBQC4	—
	QD4R600	Fixed-Ratchet	32	11°	120 ft. lb.	600 ft. lb.	5 ft. lb.	42 3/4	2 1/2	1 1/4	PBQC4	RKRQC4
1	QD51000	Fixed	—	—	200 ft. lb.	1000 ft. lb.	5 ft. lb.	69	1 25/32	1 1/2	PBQC5	—
	QD5R1000	Fixed-Ratchet	30	12°	200 ft. lb.	1000 ft. lb.	5 ft. lb.	71	3 1/8	1 1/8	PBQC5	RKRQC5
	QD52000	Fixed	—	—	400 ft. lb.	2000 ft. lb.	10 ft. lb.	108	3 3/4	3 1/8	—	—

Metric Torque Wrenches (kg•m, kg•cm)

1/4	QD1RM200	Fixed-Ratchet	36	10°	40 kg•cm	200 kg•cm	1 kg•cm	11 1/16	7/8	7/16	PBQD1	RKRT936
3/8	QD2RM1000	Fixed-Ratchet	36	10°	200 kg•cm	1000 kg•cm	5 kg•cm	15 5/16	1 5/32	9/16	PBQD2	RKRF936
1/2	QD3RM2000	Fixed-Ratchet	36	10°	400 kg•cm	2000 kg•cm	20 kg•cm	19	1 5/8	3/4	PBQD3	RKRS936
	QD3RM30	Fixed-Ratchet	36	10°	6 kg•m	30 kg•m	.2 kg•m	19	1 5/8	3/4	PBQD3	RKRS936
3/4	QD4RM80	Fixed-Ratchet	32	11°	16 kg•m	80 kg•m	.5 kg•m	42 3/4	2 1/2	1 1/8	PBQC4	RKRQC4

All storage cases are plastic except for PBQC5 which is metal.

QD2N50



Adjustable Click-Type Torque

Newton Meter Torque Instruments

Square Drive, inches	Stock No.	Head Style	Gear Teeth	Gear Action	Range,		Increments	Length, inches	Head Width, inches	Head Depth, inches	Storage Case	Ratchet Service Kit
1/4	QD1N6	Fixed	—	—	12 dN•m	60 dN•m	.5 dN•m	9 3/4	5/8	3/8	PBQD1	—
	QD1RN6	Fixed-Ratchet	36	10°	12 dN•m	60 dN•m	.5 dN•m	9 7/8	7/8	7/16	PBQD1	RKRT936
	QD1N25	Fixed	—	—	50 dN•m	250 dN•m	1 dN•m	11 1/16	5/8	3/8	PBQD1	—
	QD1RN25	Fixed-Ratchet	36	10°	50 dN•m	250 dN•m	1 dN•m	11 3/4	7/8	7/16	PBQD1	RKRT936
3/8	QD2RN25	Compact-Ratchet	36	10°	50 dN•m	250 dN•m	1 dN•m	11 3/4	7/8	7/16	PBQD2	RKRF936
	QD2N50	Fixed	—	—	10 N•m	50 N•m	.5 N•m	14 1/16	1	9/16	PBQD2	—
	QD2RN50	Fixed-Ratchet	36	10°	10 N•m	50 N•m	.5 N•m	15 1/16	1 1/32	9/16	PBQD2	RKRF936
	QD2N100	Fixed	—	—	20 N•m	100 N•m	.5 N•m	14 1/16	1	9/16	PBQD2	—
1/2	QD2RN100	Fixed-Ratchet	36	10°	20 N•m	100 N•m	.5 N•m	15 1/16	1 1/32	9/16	PBQD2	RKRF936
	QD3N200	Fixed	—	—	40 N•m	200 N•m	2 N•m	18	1	9/16	PBQD3	—
	QD3RN200	Fixed-Ratchet	36	10°	40 N•m	200 N•m	2 N•m	19	1 1/8	3/4	PBQD3	RKRS936
	QD3N350	Fixed	—	—	70 N•m	350 N•m	2 N•m	23 3/16	1	9/16	PBQD3	—
3/4	QD3RN350	Fixed-Ratchet	36	10°	70 N•m	350 N•m	2 N•m	24 3/16	1 1/8	3/4	PBQD3	RKRS936
	QD4N550	Fixed	—	—	110 N•m	550 N•m	2.5 N•m	33 3/4	1 1/2	1 1/2	PBQC4	—
	QD4RN550	Fixed-Ratchet	32	11°	110 N•m	550 N•m	2.5 N•m	35 3/4	2 1/2	1 1/4	PBQC4	RKRQC4
	QD4N800	Fixed	—	—	150 N•m	800 N•m	5 N•m	40 3/4	1 1/2	1 1/2	PBQC4	—
1	QD4RN800	Fixed-Ratchet	32	11°	150 N•m	800 N•m	5 N•m	42 3/4	2 1/2	1 1/4	PBQC4	RKRQC4
	QD5N1500	Fixed	—	—	300 N•m	1500 N•m	10 N•m	69	1 25/32	1 1/16	PBQC5	—
	QD5RN1500	Fixed-Ratchet	30	12°	300 N•m	1500 N•m	10 N•m	69	3 1/8	1 1/2	PBQC5	RKRQC5

TQFR250E



TQFR100E



TQ Thumb Wheel Series

Wrenches feature an innovative design that provides consistently accurate readings and rugged, trouble-free performance. A unique "split-beam" measuring element provides the accuracy and eliminates the heavy coil spring used in conventional click-type wrenches, which makes for fewer moving parts, reducing friction and wear to a minimum. Fast setting of the desired torque is easily accomplished by rotating the micrometer-style adjustment knob until the required value is displayed in the torque window. Designed for measuring torque in a clockwise direction only. Wrenches are not reversible.

- Flex-ratchet models offer sealed Snap-on® ratchets, which flex up to 15° to provide knuckle and obstruction clearance.
- Ratchet models have the same strong sealed ratchet head, but ratchet heads are rigidly fixed in line with the torque body.

Guaranteed Accuracy:

TQ Series—Within ±4% of any clockwise setting from 20% of full scale to full scale.
TQR400E/TQR600E Only: ±4% of setting when used in the following orientations:
Main body vertical orientation. Torque wrench square drive axis with vertical orientation. In all other positions, guaranteed accuracy is ±5%. Accuracy is guaranteed in the clockwise direction from 20% of capacity to full capacity.

U.S. Reading Torque Wrenches with Conversion Scale

Square Drive, inches	Stock No.	Head Style	Gear Teeth	Gear Action	Range,		Increments	Length, inches	Head Width, inches	Head Depth,* inches	Ratchet Service Kit
3/8	TQFR50E**	Flex-Ratchet	36	10°	100 in. lb.	600 in. lb.	10 in. lb.	18 5/8	1 5/32	5/8	RKRF936
	TQFR100E**	Flex-Ratchet	36	10°	20 ft. lb.	100 ft. lb.	2 ft. lb.	18 5/8	1 5/32	5/8	RKRF936
1/2	TQFR250E**	Flex-Ratchet	36	10°	40 ft. lb.	250 ft. lb.	5 ft. lb.	22 3/8	1 5/8	3/4	RKRS936
3/4	TQR400E†**	Detach-Ratchet	32	11°	130 ft. lb.	400 ft. lb.	10 ft. lb.	38 1/8	2 1/2	1 1/4	RKRQC4
	TQR600E†**	Detach-Ratchet	32	11°	200 ft. lb.	600 ft. lb.	10 ft. lb.	48 5/8	2 1/2	1 1/4	RKRQC4

Newton Meter Torque Wrenches with Conversion Scale

3/8	TQFRN68E**	Flex-Ratchet	36	10°	14 N•m	68 N•m	2 N•m	18 5/8	1 5/32	5/8	RKRF936
	TQFRN130E**	Flex-Ratchet	36	10°	25 N•m	130 N•m	5 N•m	18 5/8	1 5/32	5/8	RKRF936
1/2	TQFRN350E**	Flex-Ratchet	36	10°	60 N•m	350 N•m	5 N•m	22 3/8	1 5/8	3/4	RKRS936

*Does not include square drive dimension.

**Not Reversible

†Four-piece construction disassembles for storage or transport.



WARNING

- Do not exceed rated torque.
- Do not use to break fasteners loose.
- Do not force head against flex stops.
- Frequently inspect, clean, and lubricate ratchet mechanism with light oil.



- Do not replace worn parts individually; use entire contents of the service kit.
- Periodic recalibration is necessary to maintain accuracy of any torque wrench. Recalibrate every 6 months or more depending on use. ASME B107.14M specifies that accuracy is maintained through 5000 cycles for click-type torque wrenches.
- Read additional safety precautions on pages M1 to M4.

See Warranty Information on inside front cover.

Torque TORQOMETER® Torque Wrenches



U.S. Reading - Standard 2% Accuracy

Square Drive, inches	Follow-up Models	Signal Models	Range	Increments	Length, inches	Width, inches	Head* Depth, inches
1/4	TE1FUE†	—	15 in. lb.	1/4 in. lb.	11 1/4	3 1/8	1 3/4
	TE3FUE†	—	30 in. lb.	1/2 in. lb.	11 1/4	3 1/8	1 3/4
	TE6FUE†	—	75 in. lb.	1 in. lb.	11 1/4	3 1/8	1 3/4
3/8	TE12FUE†	—	150 in. lb.	2 1/2 in. lb.	11 1/4	3 1/8	1 3/4
	TE25FUE†	—	300 in. lb.	5 in. lb.	11 1/4	3 1/8	1 3/4
	TE50FUE†	—	600 in. lb.	10 in. lb.	14 15/32	3 1/8	1 3/4
	TE25FFUE†	—	25 ft. lb.	1/2 ft. lb.	14 15/32	3 1/8	1 3/4
	TE50FFUE†	—	50 ft. lb.	1 ft. lb.	14 15/32	3 1/8	1 3/4
1/2	TE100FUE†	—	100 ft. lb.	1 ft. lb.	21 1/2	2 3/4	2
	TE175FUE†	—	175 ft. lb.	2 1/2 ft. lb.	21 1/2	2 3/4	2
	TE250FUE†	—	250 ft. lb.	5 ft. lb.	21 1/2	2 3/4	2
3/4	TE352FUE†	—	350 ft. lb.	5 ft. lb.	28 7/8	2 3/4	2 3/4
	TE602FUE†	TE602LE‡	600 ft. lb.	10 ft. lb.	46 1/2	2 3/4	3
1	TE1003FUE†	TE1003LE‡	1000 ft. lb.	10 ft. lb.	74	3	3 1/2
1	TE2003FUE†	TE2003LE‡	2000 ft. lb.	25 ft. lb.	122	3 1/2	6 1/2

*Includes square drive dimension.

†Composite housing.

‡Steel housing.

Guaranteed Accuracy:

Within ± 2% of the reading from 20% of full scale to full scale clockwise and counterclockwise.



Newton Meter Reading - Standard 2% Accuracy

Square Drive, inches	Follow-up Models	Signal Models	Range N•m	Increments N•m	Length, inches	Width, inches	Head* Depth, inches
1/4	TESI5FUE	—	5	.2	11 1/4	3 1/8	1 3/4
	TESI10FUE	—	10	.5	11 1/4	3 1/8	1 3/4
3/8	TESI20FUE	—	20	.5	11 1/4	3 1/8	1 3/4
	TESI30FUE	—	30	1.0	11 1/4	3 1/8	1 3/4
	TESI70FUE	—	70	2.0	14 15/32	3 1/8	1 3/4
	TESI75FUE	—	75	1.0	14 15/32	3 1/8	1 3/4
1/2	TESI125FUE	—	125	5.0	21 1/2	2 3/4	2
	TESI250FUE	—	250	5.0	21 1/2	2 3/4	2
3/4	TESI500FUE	—	500	10.0	28 7/8	2 3/4	2
	TESI800FUE	TESI800LAE	800	20.0	46 1/2	2 3/4	3
1	TESI1360FUE	TESI1360LE	1360	20.0	74	3	3 1/2
1	TESI2803FUE	TESI2803LE	2800	50.0	122	3 1/2	6 1/2

*Includes square drive dimension.

†Composite housing.

‡Steel housing.

Guaranteed Accuracy:

Within ± 2% of the reading from 20% of full scale to full scale clockwise and counterclockwise.

• ASME Spec. B107.14M-1994



Combination U.S./Metric Reading - Standard 2% Accuracy

Square Drive, inches	Follow-up Models	N•m Range,	N•m Increments,	U.S. Range	U.S. Increments	Length, inches	Width, inches	Head* Depth, inches
1/4	TEC1FUE†	16 kg•cm	1 kg•cm	15 in. lb.	.5 in. lb.	11 1/4	3 1/8	1 3/4
	TEC3FUE†	35 kg•cm	1 kg•cm	30 in. lb.	1 in. lb.	11 1/4	3 1/8	1 3/4
	TEC6FUE†	90 kg•cm	2.5 kg•cm	75 in. lb.	1 in. lb.	11 1/4	3 1/8	1 3/4
3/8	TEC12FUE†	175 kg•cm	5 kg•cm	150 in. lb.	5 in. lb.	11 1/4	3 1/8	1 3/4
	TEC25FUE†	350 kg•cm	10 kg•cm	25 ft. lb.	1 ft. lb.	11 1/4	3 1/8	1 3/4
	TEC50FUE†	700 kg•cm	20 kg•cm	600 in. lb.	20 in. lb.	14 15/32	3 1/8	1 3/4
1/2	TEC51FUE‡	700 kg•cm	20 kg•cm	600 in. lb.	20 in. lb.	21 1/2	2 3/4	2
	TEC100FUE‡	14 kg•m	.5 kg•m	100 ft. lb.	2 ft. lb.	21 1/2	2 3/4	2
	TEC175FUE‡	25 kg•m	1 kg•m	175 ft. lb.	5 ft. lb.	21 1/2	2 3/4	2
	TEC250FUE‡	35 kg•m	1 kg•m	250 ft. lb.	10 ft. lb.	21 1/2	2 3/4	2
3/4	TEC352FUE‡	50 kg•m	1 kg•m	350 ft. lb.	10 ft. lb.	46 1/2	2 3/4	3
	TEC602FUE‡	80 kg•m	2 kg•m	600 ft. lb.	20 ft. lb.	46 1/2	2 3/4	3

*Includes square drive dimension.

†Composite housing.

‡Steel housing.

Torque Adaptors



Torque Adaptors

Use with TE352 Series Torque Wrenches or with TQR600E Torque Wrench. Designed as a 24" drive end extension for use in confined areas, adaptors permit torque applications with 3/4" or 1" drive sockets or X, XH, and OE Series Heavy-Duty Wrenches.

Stock No.	Description
XHS24	3/4" Female Square Drive Adaptor
13B	13 1/2" Heavy-duty Tubular Handle
XHA24	3/4" to 3/4" Square Drive Plug Adaptor
XHA32	3/4" to 1" Square Drive Plug Adaptor

XHA24



XHA32



Torque Angle Gauges



Torque Angle Gauges

TA362. Allows you to follow manufacturer's specifications calling for fasteners to be tightened after torque loads are applied. Calibrated in degrees in large, easy-to-read increments. 3/4" square drive.

TA360. Similar to TA362 above except 1/2" square drive.



WARNING

- Do not exceed rated torque.
- Do not use to break fasteners loose.
- Periodic recalibration is necessary to maintain accuracy of any torque wrench. Recalibrate every 6 months or more frequently depending on use.
- Read additional safety precautions on pages M1 to M4.



Torque Interchangeable Head, Click-Type Torque Wrenches

Interchangeable heads permit ratcheting, fixed, or open end torquing capability with either adjustable or preset torque wrench bodies.

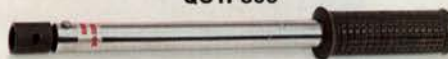
A push of the locking pin provides quick-change action, with a wide range of head styles to choose from.

- Selection—there are two adjustable models for quickly setting desired torque and eight preset models for assembly line work.
- Slim Profile—each torque body is thin enough and long enough to get into tight areas.
- Micrometer-Type Adjustment—ensures fast, accurate settings and changes.
- Guaranteed Accuracy—all QC Series interchangeable torque wrenches are accurate $\pm 4\%$ clockwise and $\pm 6\%$ counterclockwise from 20% of full scale to full scale.

QC11200



QC1P300



QC3P200



Torque Wrench Bodies/ Adjustable

Stock No.	Model Type	Range	Increments	Length, inches
QC11200	Adjustable	40-200 in. lb.	1 in. lb.	9 3/4
QC2175	Adjustable	5-75 ft. lb.	.5 ft. lb.	13

QJD12A



Torque Wrench Bodies / Pre-Set

Stock No.	Model Type	Shank Diameter	Range	Length, inches
QC1P60	Preset	J (0.425")	10-60 in. lb. (11-66 dN•m)	6
QC1P100	Preset	J (0.425")	15-100 in. lb. (17-113 dN•m)	8
QC1P300	Preset	J (0.425")	60-300 in. lb. (68-339 dN•m)	10
QC2P75	Preset	J (0.425")	5-75 ft. lb. (7-100 N•m)	11
QC3P150	Preset	Y (0.560")	30-150 ft. lb. (7-100 N•m)	23
QC3P200	Preset	Y (0.560")	40-200 ft. lb. (55-270 N•m)	23
QC4P300	Preset	X (0.735")	60-300 ft. lb. (82-400 N•m)	27
QC4P600	Preset	Z (0.990")	200-600 ft. lb. (275-800 N•m)	55

Square Drive Heads / Ratcheting

Allow use of torque wrench bodies above with sockets, crowfoot wrenches, or other similar attachment.

Square Drive, in.	J [0.425"]	Y [0.560"]	Shank Diameter X [0.735"]	Z [0.990"]	Head O.D., in.	Depth in.	Center of Fastener to Retaining Pin	
1/4	QJD8A** (350)				17/32	9/64	QJD Series - 2.50"	RKRT936
3/8	QJD12A** (900)	QYD12A** (1,200)			21/32	11/64	QYD Series - 3.00"	RKRF936
1/2	QJD16A** (900)	QYD16A** (2,400)	QXD16A** (3,000)		21/32	11/64	QXD Series - 4.50"	RKRS936
3/4			QXD24A (3,600)	QZD24A (7,200)	25/32	11/64	QZD Series - 5.75"	RKRQC4
1			QXD32A (3,600)	QZD32A (7,200)	29/32	11/64		RKRQC5

** U.S. Patents 4,934,220 and 6,125,722 apply to these ratchet heads.

Value in parentheses is the Maximum Recommended Working Torque, in. lb.

Square Drive Heads / Fixed

Allow use of torque wrench bodies above with sockets, crowfoot wrenches, or other similar attachments.

Square Drive, in.	J [0.425"]	Y [0.560"]	Shank Diameter X [0.735"]	Z [0.990"]	Center of Fastener to Retaining Pin
1/4	QJSD8A (200)				QJSD Series - 2.50"
3/8	QJSD12A (900)	QYSD12A (1,200)			QYSD Series - 3.00"
1/2	QJSD16A (900)	QYSD16A (2,400)	QXSD16A (3,000)		QXSD Series - 4.50"
3/4			QXSD24A (2,400)	QZSD24A (7,200)	QZSD Series - 5.75"
1			QXSD32A (3,600)	QZSD32A (7,200)	

Value in parentheses is the Maximum Recommended Working Torque, in. lb.

QYSD16A



WARNING



- Do not exceed rated torque.
- Do not use to break fasteners loose.
- Frequently inspect, clean, and lubricate ratchet mechanism with light oil.
- Do not replace worn parts individually; use entire contents of the service kit.

- Periodic recalibration is necessary to maintain accuracy of any torque wrench.
- Recalibrate every 6 months or more frequently depending on use. ASME B107.14M specifies that accuracy is maintained through 5,000 cycles for click-type torque wrenches.

Interchangeable Head, Click-Type Torque Wrenches Torque

Open End Heads



QJO28A

Center of fastener to retaining pin:

- QJO Series—2.50"
- QYO Series—3.00"
- QXO Series—4.50"
- QZO Series—5.75"

	J [0.425"]	Y [0.560"]	Shank Diameter X [0.735"]		Z [0.990"]	O.D., in.	Head Depth, in.
1/4	QJO8A* (55)					17/32	9/64
9/32	QJO9A* (80)					21/32	11/64
9/32	QJO10A (110)					21/32	11/64
3/8	QJO12A (220)					25/32	11/64
7/16	QJO14A (310)					29/32	11/64
1/2	QJO16A (410)					1 1/16	11/64
9/16	QJO18A (695)	QYO18A (695)				1 1/16	11/64
5/8	QJO20A (835)	QYO20A (835)				1 5/16	11/64
11/16	QJO22A (900)	QYO22A (1,185)				1 7/16	11/64
3/4	QJO24A (900)	QYO24A (1,500)	QXO24A (1,500)			1 19/32	11/64
13/16	QJO26A (900)	QYO26A (1,965)	QXO26A (1,965)			1 23/32	3/8
7/8	QJO28A (900)	QYO28A (2,310)	QXO28A (2,310)			1 23/32	3/8
15/16	QJO30A (900)	QYO30A (2,400)	QXO30A (2,400)			1 29/32	13/32
1	QJO32A (900)	QYO32A (2,400)	QXO32A (3,575)		QZO32A (3,575)	2 1/32	7/16
1 1/16	QJO34A (900)	QYO34A (2,400)	QXO34A (3,600)		QZO34A (3,850)	2 3/16	15/32
1 1/8		QYO36A (2,400)	QXO36A (3,600)		QZO36A (4,400)	2 5/16	15/32
1 3/16		QYO38A (2,400)	QXO38A (3,600)		QZO38A (5,200)	2 7/16	1/2
1 1/4		QYO40A (2,400)	QXO40A (3,600)		QZO40A (5,775)	2 9/16	17/32
1 5/16		QYO42A (2,400)	QXO42A (3,600)		QZO42A (6,600)	2 21/32	9/16
1 3/8		QYO44A (2,400)	QXO44A (3,600)		QZO44A (7,200)	2 3/16	19/32
1 7/16		QYO46A (2,400)	QXO46A (3,600)		QZO46A (7,200)	3	19/32
1 1/2		QYO48A (2,400)	QXO48A (3,600)		QZO48A (7,200)	3 1/16	5/8
1 5/8		QYO50A (2,400)	QXO50A (3,600)		QZO50A (7,200)	3 3/16	21/32
1 3/4		QYO52A (2,400)	QXO52A (3,600)		QZO52A (7,200)	3 11/32	11/16
1 11/16			QXO54A (3,600)		QZO54A (7,200)	3 13/32	23/32
1 3/4			QXO56A (3,600)		QZO56A (7,200)	3 9/16	23/32
1 13/16			QXO58A (3,600)		QZO58A (7,200)	3 21/32	13/32
1 7/8			QXO60A (3,600)		QZO60A (7,200)	3 13/16	25/32
2			QXO64A (3,600)		QZO64A (7,200)	4 1/16	27/32
2 1/16					QZO66A (7,200)	4 3/16	27/32
2 1/8					QZO68A (7,200)	4 5/16	5/8
2 1/4					QZO72A (7,200)	4 9/16	15/16
2 3/4					QZO80A (7,200)	5 1/16	1
2 3/4					QZO88A (7,200)	5 1/16	1
3					QZO96A (7,200)	5 1/16	1

Value in parentheses is the Maximum Recommended Working Torque, in. lb.

* Use with QC1P100 and QC11200 Torque Bodies only;
other heads may be used with all listed torque bodies.

Open End Heads

mm	J [0.425"]	Y [0.560"]	Shank Diameter X [0.735"]		Z [0.990"]	O.D., mm	Head Depth, mm
6	QJOM6A* (60)					13.5	3.6
7	QJOM7A* (75)					13.5	3.6
8	QJOM8A* (120)					16.5	3.3
9	QJOM9A (170)					19.8	4.8
10	QJOM10A (265)					19.8	4.8
11	QJOM11A (400)					22.9	5.6
12	QJOM12A (430)					26.9	6.1
13	QJOM13A (495)					26.9	6.1
14	QJOM14A (665)	QYOM14A (665)				29.5	6.6
15	QJOM15A (885)	QYOM15A (885)				33.3	6.9
16	QJOM16A (900)	QYOM16A (1,060)				33.3	6.9
17	QJOM17A (900)	QYOM17A (1,235)	QXOM17A (1,235)			37.1	7.3
18	QJOM18A (900)	QYOM18A (1,375)	QXOM18A (1,375)			37.1	7.3
19	QJOM19A (900)	QYOM19A (1,650)	QXOM19A (1,650)			40.4	7.6
20	QJOM20A (900)	QYOM20A (1,925)	QXOM20A (1,925)			43.7	9.2
21	QJOM21A (900)	QYOM21A (2,160)	QXOM21A (2,160)			43.7	9.2
22	QJOM22A (900)	QYOM22A (2,400)	QXOM22A (2,470)			43.7	9.2
23	QJOM23A (900)	QYOM23A (2,400)	QXOM23A (2,745)			47	10
24	QJOM24A (900)	QYOM24A (2,400)	QXOM24A (2,970)	QZOM24A (2,970)		49	11
25	QJOM25A (900)	QYOM25A (2,400)	QXOM25A (3,295)	QZOM25A (3,295)		52	11
26	QJOM26A (900)	QYOM26A (2,400)	QXOM26A (3,570)	QZOM26A (3,570)		53	11
27	QJOM27A (900)	QYOM27A (2,400)	QXOM27A (3,600)	QZOM27A (3,825)		55	12
29		QYOM29A (2,400)	QXOM29A (3,600)	QZOM29A (4,550)		58	12
30		QYOM30A (2,400)	QXOM30A (3,600)	QZOM30A (4,950)		61	13
32		QYOM32A (2,400)	QXOM32A (3,600)	QZOM32A (5,755)		65	14
34		QYOM34A (2,400)	QXOM34A (3,600)	QZOM34A (6,595)		68	14
36		QYOM36A (2,400)	QXOM36A (3,600)	QZOM36A (7,200)		74	15

Value in parentheses is the Maximum Recommended Working Torque, in. lb.

* Use with QC1P100 and QC11200 Torque Bodies only;
other heads may be used with all listed torque bodies.

QJOM11A



Center of fastener to retaining pin:

- QJOM Series—2.50"
- QYOM Series—3.00"
- QXOM Series—4.50"
- QZOM Series—5.75"

Torque Interchangeable Head, Click-Type Torque Wrenches

12-Point Box End Heads

	J [0.425"]		Y [0.560"]		Shank Diameter X [0.735"]		Z [0.990"]	O.D., in.	Head Depth, in.
1/4	QJX8A (220)							13/32	3/16
9/32	QJX9A (490)							13/32	3/16
3/8	QJX12A (490)							9/32	1/4
7/16	QJX14A (715)							21/32	5/16
1/2	QJX16A (900)							3/4	11/32
9/16	QJX18A (900)		QYX18A (1,340)					27/32	3/8
5/8	QJX20A (900)		QYX20A (2,050)					15/16	13/32
11/16	QJX22A (900)		QYX22A (2,400)					1 1/32	7/16
3/4	QJX24 A (900)		QYX24A (2,400)		QXX24A (2,630)			1 1/8	15/32
13/16	QJX26A (900)		QJX26A (2,400)		QXX26A (3,300)			1 3/16	17/32
7/8	QJX28A (900)		QYX28A (2,400)		QXX28A (3,600)			1 9/32	9/16
15/16	QJX30A (900)		QYX30A (2,400)		QXX30A (3,600)			1 3/8	19/32
1	QJX32A (900)		QYX32A (2,400)		QXX32A (3,600)		QZX32A (5,390)	1 15/32	21/32
1 1/16	QJX34A (900)		QYX34A (2,400)		QXX34A (3,600)		QZX34A (5,940)	1 9/16	11/16
1 1/8			QYX36A (2,400)		QXX36A (3,600)		QZX36A (6,430)	1 5/8	11/16
1 3/16			QYX38A (2,400)		QXX38A (3,600)		QZX38A (7,200)	1 3/4	3/4
1 1/4			QYX40A (2,400)		QXX40A (3,600)		QZX40A (7,200)	1 13/16	3/4
1 5/16			QYX42A (2,400)		QXX42A (3,600)		QZX42A (7,200)	1 29/32	3/4
1 3/8			QYX44A (2,400)		QXX44A (3,600)		QZX44A (7,200)	2	3/4
1 7/16			QYX46A (2,400)		QXX46A (3,600)		QZX46A (7,200)	2 1/16	7/8
1 1/2			QYX48A (2,400)		QXX48A (3,600)		QZX48A (7,200)	2 5/32	7/8
1 9/16			QYX50A (2,400)		QXX50A (3,600)		QZX50A (7,200)	2 1/4	7/8
1 5/8			QYX52A (2,400)		QXX52A (3,600)		QZX52A (7,200)	2 11/32	7/8
1 11/16					QXX54A (3,600)		QZX54A (7,200)	2 7/16	7/8
1 3/4					QXX56A (3,600)		QZX56A (7,200)	2 17/32	1 1/32
1 13/16					QXX58A (3,600)		QZX58A (7,200)	2 5/8	1 1/32
1 7/8					QXX60A (3,600)		QZX60A (7,200)	2 11/32	1 1/32
2					QXX64A (3,600)		QZX64A (7,200)	2 7/8	1 1/32
2 1/16							QZX66A (7,200)	2 21/32	1 3/16
2 1/8							QZX68A (7,200)	3 1/16	1 3/16
2 1/4							QZX72A (2,400)	3 7/32	1 3/16
13/16							QZX80A (7,200)	3 19/32	1 5/16

Value in parentheses is the Maximum Recommended Working Torque, in. lb.

QJX12A



Center of fastener to retaining pin:

- **QJX** Series—2.50"
- **QYX** Series—3.00"
- **QXX** Series—4.50"
- **QZX** Series—5.75"

QXX52A



Note: See wrench bodies on pgs 270 and 275.

12-Point Box End Heads



QJXM17A

Center of fastener to retaining pin:

- **QJXM** Series—2.50"
- **QYXM** Series—3.00"
- **QXXM** Series—4.50"
- **QZXM** Series—5.75"

	J [0.425"]		Y [0.560"]		Shank Diameter X [0.735"]		Z [0.990"]	O.D., mm	Head Depth, mm
6	QJXM6A (180)							11	5
7	QJXM7A (240)							11	5
8	QJXM8A (265)							13	6
9	QJXM9A (355)							14	6
10	QJXM10A (630)							15	7
11	QJXM11A (710)							17	8
12	QJXM12A (805)							18	8
13	QJXM13A (900)							20	9
14	QJXM14A (900)		QYXM14A (1,400)					21	9
15	QJXM15A (900)		QYXM15A (1,770)					22	10
16	QJXM16A (900)		QYXM16A (2,195)					24	10
17	QJXM17A (900)		QYXM17A (2,365)		QXXM17A (2,365)			25	11
18	QJXM18A (900)		QYXM18A (2,400)		QXXM18A (2,690)			27	12
19	QJXM19A (900)		QYXM19A (2,400)		QXXM19A (2,860)			28	12
20	QJXM20A (900)		QYXM20A (2,400)		QXXM20A (3,070)			30	13
21	QJXM21A (900)		QYXM21A (2,400)		QXXM21A (3,295)			31	13
22	QJXM22A (900)		QYXM22A (2,400)		QXXM22A (3,600)			32	14
23	QJXM23A (900)		QYXM23A (2,400)		QXXM23A (3,600)			34	15
24	QJXM24A (900)		QYXM24A (2,400)		QXXM24A (3,600)		QZXM24A (4,505)	35	15
25	QJXM25A (900)		QYXM25A (2,400)		QXXM25A (3,600)		QZXM25A (4,950)	37	16
26	QJXM26A (900)		QYXM26A (2,400)		QXXM26A (3,600)		QZXM26A (5,380)	38	16
27	QJXM27A (900)		QYXM27A (2,400)		QXXM27A (3,600)		QZXM27A (5,940)	39	17
29			QYXM29A (2,400)		QXXM29A (3,600)		QZXM29A (6,640)	42	18
30			QYXM30A (2,400)		QXXM30A (3,600)		QZXM30A (7,035)	44	19
32			QYXM32A (2,400)		QXXM32A (3,600)		QZXM32A (7,200)	46	19
34			QYXM34A (2,400)		QXXM34A (3,600)		QZXM34A (7,200)	48	19
36			QYXM36A (2,400)		QXXM36A (3,600)		QZXM36A (7,200)	53	22

Note: See wrench bodies on pgs 270 and 275.

Value in parentheses is the Maximum Recommended Working Torque, in. lb.

Interchangeable Head, Click-Type Torque Wrenches Torque

6-Point Flare Nut Heads

	Shank Diameter		O.D., in.	Head Depth, in.
	J [0.425"]	Y [0.560"]		
1/4	QJRXS8A (75)		19/32	1/4
5/16	QJRXS10A (200)		21/32	9/32
3/8	QJRXS12A (350)		3/4	5/16
7/16	QJRXS14A (500)		27/32	11/32
1/2	QJRXS16A (650)		27/32	3/8
5/16	QJRXS18A (800)	QYRXS18A (800)	1	13/32
3/8	QJRXS20A (900)	QYRXS20A (950)	1 3/32	7/16
11/16	QJRXS22A (900)	QYRXS22A (1,100)	1 5/32	15/32
3/4	QJRXS24A (900)	QYRXS24A (1,245)	1 1/4	1/2
13/16	QJRXS26A (900)	QYRXS26A (1,400)	1 5/16	17/32
7/8	QJRXS28A (900)	QYRXS28A (1,600)	1 13/32	9/16
15/16	QJRXS30A (900)	QYRXS30A (1,750)	1 1/2	19/32
1	QJRXS32A (900)	QYRXS32A (1,900)	1 9/16	5/8
1 1/8	QJRXS36A (900)	QYRXS36A (2,200)	1 3/4	11/16

Value in parentheses is the Maximum Recommended Working Torque, in. lb.

6-Point Flare Nut Heads

	Shank Diameter		O.D., mm	Head Depth, mm
	J [0.425"]	Y [0.560"]		
8	QJRXSM8A (200)		17	7
9	QJRXSM9A (300)		18	7
10	QJRXSM10A (400)		20	8
11	QJRXSM11A (500)		21	9
12	QJRXSM12A (600)		22	9
13	QJRXSM13A (700)		24	9
14	QJRXSM14A (740)		25	10
15	QJRXSM15A (850)	QYRXSM15A (850)	26	10
16	QJRXSM16A (900)	QYRXSM16A (900)	27	11
17	QJRXSM17A (900)	QYRXSM17A (1,000)	29	11
18	QJRXSM18A (900)	QYRXSM18A (1,125)	30	12
19	QJRXSM19A (900)	QYRXSM19A (1,250)	32	12
20	QJRXSM20A (900)	QYRXSM20A (1,350)	33	13
21	QJRXSM21A (900)	QYRXSM21A (1,350)	34	13

Value in parentheses is the Maximum Recommended Working Torque, in. lb.

12-Point Flare Nut Heads

	Shank Diameter		O.D., in.	Head Depth, in.
	J [0.425"]	Y [0.560"]		
5/16	QJRX18A (800)	QYRX18A (800)	1	13/32
5/8	QJRX20A (900)	QYRX20A (950)	1 3/32	7/16
11/16	QJRX22A (900)	QYRX22A (1,100)	1 5/32	15/32
3/4	QJRX24A (900)	QYRX24A (1,245)	1 1/4	1/2
13/16	QJRX26A (900)	QYRX26A (1,400)	1 11/32	17/32
7/8	QJRX28A (900)	QYRX28A (1,600)	1 13/32	9/16
15/16	QJRX30A (900)	QYRX30A (1,750)	1 1/2	19/32
1	QJRX32A (900)	QYRX32A (1,900)	1 19/32	21/32
1 1/16	QJRX34A (900)	QYRX34A (2,050)	1 21/32	11/16
1 1/8	QJRX36A (900)	QYRX36A (2,200)	1 3/4	23/32
1 3/16		QYRX38A (2,400)	1 7/16	3/4
1 1/4		QYRX40A (2,400)	1 29/32	25/32
1 5/16		QYRX42A (2,400)	1 27/32	25/32
1 3/8		QYRX44A (2,400)	2 5/32	29/32
1 7/16		QYRX46A (2,400)	2 5/32	29/32
1 1/2		QYRX48A (2,400)	2 5/32	29/32
1 9/16		QYRX50A (2,400)	2 5/32	29/32
1 5/8		QYRX52A (2,400)	2 5/16	11/32

Value in parentheses is the Maximum Recommended Working Torque, in. lb.

QJRX18A



Center of fastener to retaining pin:

- QJRXS Series—2.50"
- QYRXS Series—3.00"
- QJRXSM Series—2.50"
- QYRXSM Series—3.00"
- QJRX Series—2.50"
- QYRX Series—3.00"
- QJRO Series—2.50"
- QYRO Series—3.00"
- QJROM Series—2.50"
- QYROM Series—3.00"

Open End Heads / Ratcheting

	Shank Diameter		O.D., in.	Head Depth, in.
	J [0.425"]	Y [0.560"]		
5/16	QJRO10A (130)		5/8	3/16
3/8	QJRO12A (255)		3/4	7/32
7/16	QJRO14A (415)	QYRO14A (415)	7/8	1/4
1/2	QJRO16A (515)	QYRO16A (515)	1	9/32
5/8	QJRO18A (720)	QYRO18A (720)	1 1/8	9/32
3/4	QJRO20A (900)	QYRO20A (1,100)	1 7/32	5/16

Value in parentheses is the Maximum Recommended Working Torque, in. lb.

Open End Heads / Ratcheting

	Shank Diameter		O.D., mm	Head Depth, mm
	J [0.425"]	Y [0.560"]		
10	QJROM10A (245)		20	6
12	QJROM12A (400)		24	7
13	QJROM13A (550)		26	7
14	QJROM14A (700)		27	7
15	QJROM15A (760)	QYROM15A (760)	30	8
17	QJROM17A (900)	QYROM17A (1,215)	34	9

Value in parentheses is the Maximum Recommended Working Torque, in. lb.



WARNING

- Do not exceed rated torque.
- Do not use to break fasteners loose.
- Read additional safety precautions on pages M1 to M4.



Torque Geared Head Multipliers

Geared Head Multipliers

Some models feature a replacement square drive to protect components by automatically shearing when rated output is exceeded by 3% to 10%. All models include an input/output conversion chart in ft. lb. and N•m.

Specifications	YA290PLUS	YA300	YA391	YA292	YA392	YA393	YA394	YA395	YA396
Reaction Type	Bar	Bar	Bar	Bar	Bar	Bar	Plate	Plate	Plate
Output Capacity, ft. lb.	750	1000	1200	2000	2200	3200	5000	8000	12000
Input Capacity, ft. lb.	227	303	200	500	162	173	189	154	171
Gear Ratio	1:04	4:1	6.3:1	4.27:1	15:1	20.25:1	29.25:1	60:1	81:1
Torque Ratio	1:3.3	3.3:1**	6:1*	3.7:1**	13:1*	18.5:1*	26.5:1*	52:1*	70:1*
Reductions	1	1	1	1	2	3	2	2	3
Input Drive Square, inches	1/2	1/2	1/2	3/4	1/2	1/2	1/2	1/2	1/2
Output Drive Square, inches	3/4	3/4	3/4	1	1	1	1 1/2	1 1/2	2 1/2
Bearings	—	—	Needle	—	Needle	Needle	Needle	Needle	Needle
Length, inches	8 3/4	17 1/2	20	19 1/2	20	20	15	15 1/2	19 7/8
Width, inches	2 3/4	2 13/16	4	4 1/2	4	4	8 5/8	6	7 3/4
Height, inches	3 1/4	3 5/16	4 1/16	3 3/4	5 13/16	6 1/2	8 3/4	10 3/4	12 3/8
Storage Case	Yes	—	Yes	—	Yes	Yes	Yes	Yes	Yes
Angle Protractor	—	—	Yes	—	Yes	Yes	—	—	—
Anti-Backlash	—	—	—	—	Yes	Yes	Yes	Yes	Yes
Replacement Square Drive	—	—	YA391RK	—	YA392RK	YA393RK	YA394RK	YA395RK	YA396RK

*Torque accuracy ratio is $\pm 5\%$. **Torque accuracy ratio is $\pm 10\%$.

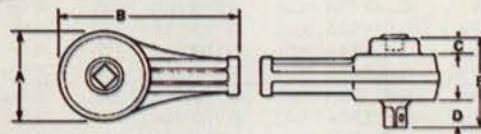
NOTE: Handle or other anchor plate serves as a "reaction bar" and must be placed against a strong fixed object.



GA184A



GA190



Geared Head Multipliers-X4 Models

Use singly or stack up to three X4s. Stacking multiplies, not adds, torque ratios—resulting torque can be considerable. Only the torque ratio changes; total capacity is equal to and does not exceed the capacity of the largest wrench in the stack.

Specifications	GA184A	GA185	GA186	GA187*	GA189*	GA190	GA191
Reaction Type	Bar	Bar	Bar	Bar	Bar	Bar	Bar
Output Capacity, ft. lb.	1000	2000	4000	8000	12000	2000	3000
Input Capacity, ft. lb.	249	588	1081	2051	2353	588	291
Gear Ratio	4:1	4:1	4.33:1	4.6:1	6:1	4:1	14.3:1
Torque Ratio	3.4:1**	3.4:1**	3.7:1**	3.9:1**	5.1:1**	3.4:1**	10.3:1**
Reductions	1	—	1	1	1	1	2
Input Square Drive, inches	1/2	3/4	1	1	1	3/4	3/4
Output Square Drive, inches	3/4	1	1 1/2	1 1/2	2 1/2	1	1 1/2
Dimensions A, inches	3 1/2	3 3/4	5 1/4	6 1/2	8 1/2	3 3/4	5 1/4
Dimensions B, inches	6 5/8	6 5/8	9 23/32	12 1/8	11 1/2	6 5/8	9 23/32
Dimensions C, inches	1/2	3/4	1	3/4	1	1 1/2	2
Dimensions D, inches	3/4	1	1 1/2	1 7/8	2 1/4	1	1 1/2
Dimensions E, inches	3 11/32	4 3/8	6 7/32	7 3/4	7 1/4	5	7
Overall Length, inches	22	25	30	32	30	25	30
Anti-Backlash	—	—	—	—	—	Yes	—

*Available by special order only. **Torque accuracy ratio is $\pm 10\%$.

NOTE: Handle or other anchor plate serves as a "reaction bar" and must be placed against a strong fixed object.

YA390



Reversible Air Motor

YA390. Provides up to 200 ft. lb. of input power for each of the YA Series Gear Multipliers. Output drive: 1/2". Maximum operating air pressure: 60 PSIG. Free speed: 70 RPM. Dimensions: 16 1/4" x 3 1/8" x 4 3/4".

N7151B

N7150A



Anti-Backlash Accessories

N7150A Anti-Backlash Ratchet. Maintains multiplied torque of X4s while preventing backlash. 90° handle braces firmly against X4 handle. 12-point; 15 1/2" long. N7151B Square Drive Adaptor required for use.

N7151B Square Drive Adaptor. For use with N7150A. Adapts only to GA184A 1/2" internal square drive opening.

Torque Screwdrivers

Preset Torque Screwdrivers

Ideal tools for low torque assemblies and precision applications. Drivers accept all standard 1/4" hex screwdriver bits. Cam-over torque limiting clutch free-wheels when set torque is achieved. Accuracy is $\pm 6\%$ in clockwise direction only for all drivers in series. Lightweight, rugged construction features red anodized aluminum body with stainless steel shank. Comfortable, ergonomic tri-lobe grip and magnetic bit retention.

Stock No.	Range, Minimum	Range, Maximum	Length, inches
QDRIVER1P	6 in. oz. (4 N•cm)	32 in. oz. (22 N•cm)	4 9/16
QDRIVER2P	10 in. oz. (7 N•cm)	100 in. oz. (70 N•cm)	5 5/8
QDRIVER3P	1.5 in. lb. (16 N•cm)	15 in. lb. (169 N•cm)	5 5/8
QDRIVER4P	4 in. lb. (45 N•cm)	40 in. lb. (451 N•cm)	6

QDRIVER3P



QDRIVER4



Adjustable Torque Screwdrivers

Ideal tools for low torque assemblies, precision applications and dash/under dash work on most domestic and imported vehicles. Drivers accept all standard 1/4" hex screwdriver bits. Cam-over torque limiting clutch free-wheels 90° when set torque is achieved. Accuracy is $\pm 6\%$ in clockwise direction only for all drivers in series. Lightweight, rugged construction features red anodized aluminum body with stainless steel shank. Comfortable, ergonomic tri-lobe grip and magnetic bit retention.

Stock No.	Range	Length, inches
QDRIVER2	20 - 100 in. oz. (14 - 70 N•cm)	5 7/16
QDRIVER3	3 - 15 in. lb. (34 - 169 N•cm)	5 7/16
QDRIVER4	5 - 40 in. lb. (56 - 451 N•cm)	6 1/16

TECHWRENCH™ Features

- Accuracy (Ratchet Models) 2% CW, 3% CCW. (Ratchet Memory Models) 1% CW, 1.5% CCW.
- Accuracy (Interchangeable Head Models) 4% CW, 6% CCW.
- Each button has ONLY one function (power on, select unit of measure, increase fastener torque setting, decrease fastener torque setting).
- All models include 3 "AA" batteries for power.
- Comfortable, non-slip grip handle.
- "D" Models feature fastener torque setting and tolerance range setting.
- Stand on handle bottom keeps tool from rolling off flat surface.

- Flex-head ratchet moves 15°.
- All models have a Low Battery Indicator and Auto-Shut-Off (after 2 minutes idle).
- Designed to withstand shocks without failure.
- Splash-proof, protects against water and most automotive shop fluid.
- CE Conformity. Includes storage case.
- Memory models include "Techlog" software CD.
- Operates at a temperature of 40-110°F (5-42°C).
- Can be stored at a temperature of 0-122°F (-20 to 50°C).
- Handles humidity up to 90% and is non-condensing.
- EU/CE-DE, ES, FR, IT, NL, PT, UK, all models.

TECHWRENCH™ Torque Wrenches

TECH2FR100



Standard Models / 2% Accuracy / Ratcheting

Stock No.	TECH1FR240	TECH2FR100	TECH3FR250	TECH4R600
Square Drive, inches	1/4	3/8	1/2	3/4
Head Type	Sealed Flex	Sealed Flex	Sealed Flex	Sealed
Gear Teeth	36	36	36	32
Gear Action	10°	10°	10°	11°
Range in. lb.	24-240	60-1200	300-3000	720-7200
Range ft. lb.	2-20	5-100	25-250	60-600
Range N•m	2.7-27.12	6.7-135	34-339	81-813
Head Depth, inches	7/16	5/8	3/4	1 1/4
Head Width, inches	7/8	1 5/32	1 1/2	2 1/2
Housing Color	Red	Red	Red	Red
Length, inches	15 1/4	17 1/4	26 1/4	48
Electronics	Tech	Tech	Tech	Tech
Ratchet Service Kit	RKRT936	RKRF936	RKRS936	RKRQC4

WARNING

- Do not exceed rated torque.
- Do not use chrome or industrial finish hand tools with power drivers.
- Over torquing can cause breakage. Wrench can break while breaking fasteners loose. An out of calibration torque wrench can cause part of tool breakage.
- Periodic recalibration is necessary to maintain accuracy.

- Do not use a torque wrench to break fasteners loose.
- Do not use with impact wrenches.
- Frequently inspect, clean, and lubricate ratchet mechanism with light oil.
- Broken tools can cause injury.
- Read additional safety precautions on pages M1 to M4.

See Warranty Information on inside front cover.

Torque TECHWRENCH™ Torque Wrenches

TECHWRENCH™ Features

- Accuracy (Standard Ratchet Models) 2% CW, 3% CCW. (Ratchet Memory Models) 1% CW, 1.5% CCW. (Interchangeable Head Models) 4% CW, 6% CCW.
- Each button has ONLY one function (power on, select unit of measure, increase fastener torque setting, decrease fastener torque setting).
- All models include 3 "AA" batteries for power.
- Comfortable, non-slip grip handle.
- "D" Models feature fastener torque setting and tolerance range setting.
- Stand on handle bottom keeps tool from rolling off flat surface.
- Flex-head ratchet moves 15°.

- All models have a Low Battery Indicator and Auto-Shut-Off (after 2 minutes idle).
- Designed to withstand shocks without failure.
- Splash-proof, protects against water and most automotive shop fluid.
- CE Conformity. Includes storage case.
- Memory models include "Techlog" Software CD to convert stored data to Microsoft® Excel® spreadsheet.
- Operates at a temperature of 40-110°F (5-42°C).
- Can be stored at a temperature of 0-122°F (-20 to 50°C).
- Handles humidity up to 90% and is non-condensing.
- EU/CE-DE, ES, FR, IT, NL, PT, UK, all models.

TECH2Y100



Standard Models / 4% Accuracy / Interchangeable Head

Stock No.	Range in. lb.	Range ft. lb.	N•m	Shank Diameter	Electronics	Housing Color	Length, inches*
TECH1J240	24-240	2-20	2.7-27.12	J (0.425")	Tech	Red	13 3/4
TECH1JD240	24-240	2-20	2.7-27.12	J (0.425")	Preset	Grey	13 3/4
TECH2Y100	60-1200	5-100	6.7-135	Y (0.560")	Tech	Red	15 1/2
TECH2YD100	60-1200	5-100	6.7-135	Y (0.560")	Preset	Grey	15 1/2
TECH3X250	300-3000	25-250	34-339	X (0.735")	Tech	Red	23 3/4
TECH3XD250	300-3000	25-250	34-339	X (0.735")	Preset	Grey	23 3/4
TECH4Z600	720-7200	60-600	81-813	Z (0.990")	Tech	Red	42
TECH4ZD600	720-7200	60-600	81-813	Z (0.990")	Preset	Grey	42

*Wrench length specification does not include the length of interchangeable heads.

TECH2FRM100



Memory Models / 1% Accuracy / Ratcheting

Stock No.	TECH1FRM240	TECH2FRM100	TECH3FRM250	TECH4RM600
Square Drive, inches	1/4	3/8	1/2	3/4
Gear Teeth	36	36	36	32
Gear Action	10°	10°	10°	11°
Range in. lb.	24-240	60-1200	300-3000	720-7200
Range ft. lb.	2-20	5-100	25-250	60-600
Range N•m	2.7-27.12	6.7-135	34-339	81-813
Head Depth, inches	7/16	5/8	3/4	1 1/4
Head Width, inches	7/8	1 5/32	1 5/8	2 1/2
Housing Color	Red	Red	Red	Red
Length, inches	15 1/4	17 1/4	26 1/4	48
Electronics	Tech	Tech	Tech	Tech
Ratchet Service Kit	RKRT936	RKRF936	RKRS936	RKRQC4

TECH2YDM100



Memory Models / 4% Accuracy / Interchangeable Head

Stock No.	Range in. lb.	Range ft. lb.	N•m	Shank Diameter	Electronics	Housing Color	Length, inches*
TECH1JM240	24-240	2-20	2.7-27.12	J (0.425")	Tech	Red	13 3/4
TECH1JDM240	24-240	2-20	2.7-27.12	J (0.425")	Preset	Grey	13 3/4
TECH2YM100	60-1200	5-100	6.7-135	Y (0.560")	Tech	Red	15 1/2
TECH2YDM100	60-1200	5-100	6.7-135	Y (0.560")	Preset	Grey	15 1/2
TECH3XM250	300-3000	25-250	34-339	X (0.735")	Tech	Red	23 3/4
TECH3XDM250	300-3000	25-250	34-339	X (0.735")	Preset	Grey	23 3/4

*Wrench length specification does not include the length of interchangeable heads.

Electronic Torque Wrenches / Testers Torque

ELECTROTORK® Torque Wrenches

Feature a high degree of accuracy either clockwise or counterclockwise regardless of handhold position. Easy-to-read scales and sealed-membrane keypad enhance operator usefulness. Each wrench includes a plastic carrying case.

Stock No.	Drive Size, inches	Range	Increments	Length, inches
QCE115A	1/4	5-50 in. lb. 5.6-56 dNm 5.7-57 kgcm 80-800 in. oz.	.01 in. lb. .01 Dn•m .01 kg•cm .10 in. oz.	13 1/2
QCE215A	3/8	25-250 in. lb. 28-282 dN•m 29-288 kg•cm	.01 in. lb. .10 dN•m .10 kg•cm	14 7/8
QCE225A	3/8	5-50 ft. lb. 68-677 dN•m 69-691 kg•m 60-600 in. lb.	.01 ft. lb. .10 dN•m .10 kg•cm .10 in. lb.	14 7/8
QCE325A	1/2	25-250 ft. lb. 34-338 N•m 3.4-34 kg•m	.10 ft. lb. .10 N•m .01 kg•m	21 1/2
QCE425A	3/4	60-600 ft. lb. 81-813 N•m 8.3-83 kg•m	.10 ft. lb. .10 N•m .01 kg•m	46 1/2

PBQCE1 Plastic storage case for all QCE Series ELECTROTORK® Torque Wrenches.

- Largest Storage Capacity Available—up to 4,000 torque values can be stored in memory.
- Downloading Capability—individual torque values and store values in memory may be directly downloaded to a printer or data logger via an RS-232 connection.
- Selectable Modes of Operation—"peak hold" and "track" modes of operation are standard.
- Range—available from 5 in. lb. to 600 ft. lb. Engineering units can be selected through the keypad (in. oz., in. lb., ft. lb., N•m, dN•m, kg•m, and kg•cm).
- Accuracy—±1% from 10% to 100% of scale.
- Quality Construction—proven industrial quality. All ELECTROTORK® electronic torque wrenches are designed for continuous use.



QCE215A



QC1ETT50

Electronic Torque Testers

Designed to be a sturdy, low-cost tester, these electronic torque testers can be placed on the wall in the factory or on a bench to allow operators to test torque wrenches or power tools without having to leave their station.

- Integral transducer and sturdy housing allow mounting in virtually any position.
- Unique neck design allows operator to see display when testing long torque wrenches.
- Accuracy better than ±1% of indicated value (10% to 100% of full range of transducer).
- Track and Peak modes.
- Can be used with non-impacting power tools (joint rate simulators required).
- Dual scale (English/N•m or English/dN•m).
- Auto/manual display reset.
- Reads bidirectionally (clockwise and counterclockwise).
- Uses rechargeable NiCad batteries.
- All testers include power adaptor cord, socket adaptor (internal to internal) and PB1ETT Plastic Storage Case.

Stock No.	Drive Size, inches	Range	English	N•m
QC1ETT400	1/4	40-400 in. oz.		28-280 cN•m
QC1ETT10	1/4	10-100 in. oz.		7.0-70.6 cN•m
QC1ETT50	1/4	5-50 in. lb.		5.6-56 dN•m
QC1ETT100	1/4	10-100 in. lb.		11.3-113 dN•m
QC2ETT250	3/8	25-250 in. lb.		28-280 dN•m
QC2ETT1000	3/8	100-1,000 in. lb.		113-1,130 dN•m
QC3ETT250	1/2	25-250 ft. lb.		34-339 N•m
QC4ETT600	3/4	60-600 ft. lb.		81-813 N•m

WARNING

- Do not exceed rated torque.
- Over torquing can cause breakage. Wrench can break while breaking fasteners loose. An out of calibration torque wrench can cause part of tool breakage.
- Periodic recalibration is necessary to maintain accuracy.
- Do not use a torque wrench to break fasteners loose.

- Do not use with impact wrenches.
- Frequently inspect, clean, and lubricate ratchet mechanism with light oil.
- Broken tools can cause injury.
- Read additional safety precautions on pages M1 to M4.

Torque Electronic Metering / Data Acquisition Systems

The VERSATORQ® system can be used for any job requiring repetitive torque applications or regular inspection of fastener torque. This system can also be used to verify pneumatic and mechanical torque wrench accuracy. Peak torque can be captured by using a rotary sensor with a non-impact power tool operating

at less than 1,000 RPM and being driven into a soft joint. Inspectors can check critical fastener torque and record data for quality audits. Perfect for process quality control. The VERSATORQ® system can internally perform statistical analysis, including histograms, and print to a serial printer.

- **Versatile** - battery operated and lightweight, with available ranges from 2 in oz to 20 in oz to 150 ft lb to 1500 ft lb and 7 units of measure: in. oz., in. lb., ft. lb., N•m, dN•m, kg•m, and kg•cm. The VERSATORQ® system can be used with sockets, extensions, universal joints, ratcheting drivers, or any of these combined.
- **Data Acquisition** - store and recall up to 3,500 readings. An internal memory backup battery retains setup and last memory data for up to ten years.
- **Track or Peak Mode** - track mode displays applied torque value and peak mode displays highest torque value.
- **Easily Calibrated** - customer calibration supports ISO9000. Instructions for step-by-step calibration provided in the users manual.
- **Smart Sensors** - built-in EEPROM memory chip stores sensor identification and calibration factors. Factory calibrated, a sensor retains its accuracy with all VERSATORQ® meters; just plug in the desired sensor. Periodic recalibration is necessary.

- **120VAC/220VAC, 60 Hz Adaptor** - rechargeable battery and handy belt clip allow you to take it to the task or use it at the bench with the optional table stand and AC adaptor.
- **PC Statistical Analysis Output** - download histogram, minimum and maximum reading, mean, sigma N, sigma, Cp, Cpk, % error, and number of readings under and over tolerance.
- **Serial Port Interface with Computer or Printer** - true RS-232 communications port for downloading to computer or serial printer. Also configurable to MITUTOYO statistical printer protocol.
- **Visual and Audio Cues** - analog bar graph at top of display provides a live indication of applied torque. An OVER warning flag comes on to indicate that maximum sensor range has been exceeded. Green MIN LED indicates lower tolerance has been achieved, and Red MAX LED indicates upper tolerance has been exceeded. Audio alarm produces a distinctive 2 kHz tone. Includes an audio output jack for optional headphones in a noisy environment.



VERSATORQ1
Torque Acquisition Meter.
Includes VERSACHARGE1 Charger
and PB57A Case.

Sensors sold separately



VERSAMETER™
Electronic Torque Meter.

Performs most of the same functions as the VERSATORQ® Torque Acquisition Meter. Will not perform the Data Storage/Recall, Statistical Analysis and Histogram functions and does not offer the Serial Output Port feature.

VERSATORQ1® / VERSAMETER™ System Specifications

Description - VERSAMETER

Description - VERSATORQ1

Modes - VERSAMETER

Display

Display Capacity*

Accuracy

Push-Button Keypad

Units of Measure

Operating Temperature

Storage Temperature

Humidity

Dimensions

Weight

Charge Life (Full Charge to Shutoff)

Battery Charger

Data Storage/Recall - VERSATORQ1

Battery Charger Output

Serial Output Port - VERSATORQ1

Statistical Analysis - VERSATORQ1

Histogram - VERSATORQ1

*VERSATORQ® display ignores torque input less than .5% of full scale in track mode and 2.0% of full scale in peak mode.

Basic Torque Acquisition Meter

120VAC Charger, and Carrying Case

Track, Peak Hold

4 digit with alpha and numeric function flags

+/- 4 digits, 8000 counts

±1% of Reading (10 to 100% of Sensor Range)

(+/- 2% with VERSA1S10 and VERSA1S20 Sensors)

Min/Max Alarm, Zero Tare, Set-Up, Units,

Store/Recall/Clear, Send, Statistics, Enter

in. oz., in. lb., ft. lb., N•m, dN•m, kg•m, kg•cm

5° to 42°C (40°F to 110°F)

-10°C to 50°C (-2°F to 122°F)

Up to 90%, non-condensing

3" W, 2.5" H (3" with belt clip), 6" D

1 lb.

20 hours continuous

120VAC or 220VAC, 50-60 Hz

3500 measurements

9VDC, 200mA

RS-232 (True), 300-19.2K baud,

and Mitutoyo (statistical protocol)

MAX, MIN, Sigma, Cp, Cpk, % Error, -NoGo, +NoGo

Lower set limit, upper set limit, 10 divisions

VERSATORQ® Sensors

Stock No.	Drive Size, inches	Range	Sensor Diameter, inches	Sensor Length, inches	Cable Length, inches
VERSA1S20*	1/4	2-20 in. oz.	.5	2.9	48
VERSA1S10*	1/4	1-10 in. lb.	.7	2.9	48
VERSA1S50	1/4	5-50 in. lb.	.9	2.1	48
VERSA1S200	1/4	20-200 in. lb.	.9	2.1	48
VERSA2S100	3/8	10-100 ft. lb.	1.2	2.4	48
VERSA3S250	1/2	25-250 ft. lb.	1.4	2.6	48
VERSA4S600	3/4	60-600 ft. lb.	2.0	3.9	96
VERSA5S1500**	1	150-1500 ft. lb.	2.4**	4.4	92†

*Knurled handles allow for fingertip control.

**Diameter does not include side-mounted connector.

†Heavy-duty coiled cord with 4-pin MS-style connector.

NOTE: Please reference the VERSATORQ® instruction manual for the sensor ranges and resolutions in different units of torque measurement.

VERSA2S100



VERSATORQ® Rotary Transducers

A rotary socket transducer can be used with the VERSATORQ® system to capture peak torque with a non-impacting power tool operating at less than 1,000 RPM and being driven into a soft joint. Torque can be measured in both clockwise and counterclockwise directions.

Stock No.	Drive Size, inches	Capacity, in. lb.	Capacity, ft. lb.	Capacity, N•m
VERSA1RTD4	1/4" Hex	50	4	6
VERSA2RTD16	3/8" Square	200	16	23
VERSA2RTD50	3/8" Square	600	50	68
VERSA3RTD200	1/2" Square	2400	200	271

VERSATORQ® System Accessories

VERSACHARGE1	Power Pack, 120VAC to 9VDC
VERSACHARGE2	Power Pack, 220VAC to 9VDC (Europe)
VERSACHARGE3	220VAC to 9VDC Power Pack / Charger (Australia / United Kingdom)
VERSAPHONE	Head Phones
VERSACABLE	RS-232 Serial Printer Cable
VERSACABLE2	PC Interface Cable
PB57A	Carrying Case

VERSATEST™ Electronic Torque Tester Torque

The VERSATEST™ Indicator is a laboratory grade instrument used for precise, in-house torque wrench testing and calibration. High precision torque transducers provide system readings with an accuracy of $\pm 0.25\%$ of indicated value. Transducers are available in ranges from 15-200 in. oz. to 200-2,000 ft. lb. and feature a special built-in memory chip that identifies the range and maintains the calibration between all VERSATEST™ Indicators. Set-up and calibration programming is entered via front panel membrane keys. The VERSATEST™ can store and recall up to 3,000 different torque/force readings. Statistical analysis stored in memory can be downloaded to a computer or serial printer. A hard-wired lithium battery keeps the internal memory and the date/time clock operating for up to ten years.



VERSATEST

TTC400



Transducers

All TTC Series Transducers include the correct adaptor for the indicated torque range.

Stock No.	Description	Drive Size, inches	Range	Bench Top Mounting Bracket
TTC5	Transducer	1/4	15-200 in. oz.	TTC3421
TTC6	Transducer	1/4	4-50 in. lb.	TTC3421
TTC65	Transducer	1/4	15-150 in. lb.	TTC3421
TTC7	Transducer	3/8	30-400 in. lb.	TTC3421
TTC8	Transducer	3/8	80-1000 in. lb.	TTC3421
TTC10	Transducer	1/2	10-125 ft. lb.	TTC3422
TTC11	Transducer	1/2	20-250 ft. lb.	TTC3422
TTC12	Transducer	3/4	60-600 ft. lb.	TTC3422
TTC13	Transducer	1	100-1000 ft. lb.	TTC15001
TTC14	Transducer	1	200-2000 ft. lb.	TTC15001
TTC400*	4-in-1 Transducer	1/4	4-50 in. lb. (min.)	—
		3/8	30-400 in. lb.	—
		3/8	80-1000 in. lb.	—
		1/2	20-250 ft. lb. (max.)	—

*TTC400 requires the TTC5000-1 Adaptor Plate when used with the TTC600 Manual Loader, TTC800 Motorized Loader and VERSA600LDR.

VERSATEST™ Specifications:

Display:	Large 5.5" x 1.5" backlit LCD graphics display (240 x 64 dot matrix, 0.67" torque digits character height)
Capacity:	5 significant digits \pm 32,000 counts (16 bit A/D)
Sample Rate:	2000 samples per second
Display Rate:	5 updates per second
Accuracy*:	$\pm 0.25\%$ OF READING AT 25° C (WITH TTC Transducer calibration)
Temperature Drift:	+ 0.03% / °C (+0.017% / °F)
Bar Graph:	100 segment analog of applied torque scaled to Limits Set value
Units of Measure:	in. oz., in. lb., ft. lb., N•m, dN•m, kg•cm and kg•m
Modes:	Track, Peak Hold, First Peak, Power Tool
Soft Key User Interface:	Units, Calibration, Date/Time, Statistics, Hi/Low Limits Set, Data Store, Data Recall, Printer Set-up, Zero, Auto/Manual Store/Send/Clear
Select Keys:	Increment, Decrement, Shift Left, Shift Right, Enter
Operating Temperature:	10 to 32° C (50 to 90° F)
Storage Temperature:	-20 to 50° C (-2 to 122° F)
Humidity:	85% Relative Humidity @ 21° C (70° F)
Dimensions:	10" wide x 4" high x 10.5" deep (including carry handle)

Features:

- Large LCD Display
- Automatic Downloading
- Two RS232C Serial Ports—Use with Printer and PC
- Data Storage/Recall (with Date/Time stamp) holds up to 3,000 measurements
- Real Time Clock
- Smart Transducers
- Solenoid Locking Mechanical Loader
- Analog Output—Connect to Oscilloscope or X-Y Plotter
- External Printer can be mounted on top of the VERSATEST unit
- Remote Foot Switch Interface for Send/Print Functions
- Multiple Languages (English, German, Spanish, French)
- Four Modes—TRACK, PEAK HOLD, FIRST PEAK, POWER TOOL
- Statistic Process Control (SPC) built-in
- CE Conformity



VERSATEST

Torque Wrench not included.

VERSATEST600

VERSATEST600. Provides high speed monitoring of static and dynamic torque inputs. Includes the VERSATEST™ Indicator, VERSA600LDR Loader, TTC12 Transducer, TTC400 4-in-1 Transducer and TTC5000-1 4-in-1 Adaptor Plate.

VERSA600LDR. Portable, table-top torque wrench loader with safety shield. Unit will load dial, micrometer, beam and electronic torque wrenches. Optional torque screwdriver testing kit allows testing of torque screwdrivers. Maximum capacity to 600 ft. lbs. Use with any TTC Series Transducer from 15 in. oz. to 600 ft. lbs. Four cushion pads for adhesion to work surfaces without slipping. Large wheel for smooth cranking action.

Accessories

TTC1121	Serial Printer	TTC501	PC Connector
TTC3421	Mounting Bracket "A".	TTC502	Printer Connector
TTC3422	Mounting Bracket "A".	TTC75002	Torque Screwdriver Testing Kit
TTC15002	Mounting Bracket "C".		

Power Supply:	Auto Switching 100VAC-24-VAC, 50/60 Hz, 50 watts
Data Storage/Recall:	3,000 Measurements
Statistical Analysis:	Max, Min, Range, Mean, Sigma N, Sigma, Cp, Cpk, % Error, -NoGo, +NoGo
Histogram:	Lower Set Limit, Upper Set Limit, 10 Divisions
Printer/Computer	
Serial Output Port:	RS232 (True), 300-19.2K Baud
Computer Serial	
Com Port:	RS232 (True), 300-19.2K Baud
Analog Output:	+(CW)/-(CCW) 1.8V at Transducer Full Range Linearity, $\pm 1\%$ of reading
Loader Control Relays:	Two, Normally Open, Form A, Rated 12VDC @ 1/2A close contact at 110% CW or CCW or torque/force transducer range

*TTC Transducers used with, but not calibrated to, the VERSATEST™ Indicator provide a system accuracy of $\pm 0.5\%$ of reading @ 25° C.



WARNING

- Counter balance or anchor mounting base.
- Read additional safety precautions on pages M1 to M4.

Torque Electronic Torque Tester and Calibrator

The TTC2000/TTC2800 Electronic Torque Tester/Calibrators feature the very latest digital circuitry for fast and accurate torque testing with the most advanced and user friendly system available today. At the heart of the system is the TTC610 or TTC810 Digital Indicator which automatically recognizes different transducers and electronically zeros the system—all without pushing one button.

The TTC2000/TTC2800 System excels at versatile data acquisition, including measurement, storage, retrieval, statistical analysis and automatic downloading to the built-in serial printer or an external printer/computer.

Use the TTC2000/TTC2800 System to accurately test all types of torque wrenches, torque screwdrivers, torque multipliers, cable tensiometers, tension and compression gauges as well as power tools such as nut runners, and electric/pneumatic screwdrivers.

Developed under contract to the U.S. Air Force, the TTC2000/TTC2800 Electronic Torque Tester/Calibrators are the standard by which torque instruments are tested and calibrated.

- Automatic Sensor Recognition with TTC Series "Smart" Transducers
- Range: 15 in. oz. to 2,000 ft. lb (bi-directional)
- Total Uncertainty (10% to 100% of range): $\pm 0.25\%$ of indicated torque value
- Alpha-numeric 8 digit display
- Memory to 3,000 values
- Includes low profile serial printer
- Date and time stamp for stored values
- Statistical analysis performed on stored data
- Programmable manual or automatic options for clear, store and print functions
- Recall and review of stored torque values

- Modes—TRACK, PEAK, FIRST PEAK, POWER TOOL and ANGLE
- RS232C port is standard
- Analog output is standard
- Full digital circuitry
- Eight torque measurement units: in. oz., in. lb., ft. lb., cN•m, dN•m, N•m, kg•cm and kg•m.
- Automatic lock-up for transducer protection
- Automatic zero
- Automatic transducer recognition
- Operates on 120VAC or 240VAC.
- CE Conformity.

TTC2000/2800 System Specifications

TTC2000 Manual Loader System

Torque/Force Display Eight digit, alpha-numeric, super bright red LED, 0.55 inch character height
Capacity 8 digits $\pm 32,000$ counts (16 bit A/D)
Accuracy*
 $\pm 0.25\%$ of reading at 25° C (with TTC Transducer calibration)
Temperature Drift $\pm 0.03\%$ / C ($\pm 0.017\%$ / F)
 * TTC Transducers used with, but not calibrated to, the TTC610/810. Indicator provides a system accuracy of $\pm 0.5\%$ of reading @ 25° C.

Units of Measure

TORQUE: ft. lb., in. lb., in. oz., N•m, dN•m, kg•cm and kg•cm;
 FORCE: lbf, ozf, N, dN, kp and gf; ANGLE: degrees

Angle Resolution (Optical Rotary Encoder)

Bi-directional, X4 quadrature logic

Maximum Range Display

2-line x 16 character 5 x 8 dot-matrix LCD used for MAX. Transducer Range, Units, Angle, Calibration, Date/Time, Statistics, Torque/Force or Torque/Angle Limits Set, Data Store/Recall, Printer Set Up

Modes

Track, Peak Hold, Angle, First Peak, Power Tool

Operating Temperature 10 to 32° C (50 to 90° F)

Storage Temperature -20 to 50° C (-2 to 122° F)

Humidity Up to 90%, Non-condensing

Power Supply UL Approved, 120VAC/220VAC, 50/60 Hz

Data Storage /Recall 3,000 Measurements

Statistical Analysis Max, Min, Range, Mean, SigmaN, Sigma, Cp, Cpk, % Error, -NoGo, +NoGo

Histogram

Lower Set Limit, Upper Set Limit, 10 Divisions

Printer/Computer Serial Output Port

RS232 (True), 300-19.2K Baud

Computer Serial COM Port

RS232 (True), 300-19.2K Baud (Optional)

Analog Output

$\pm (CW/-CW)$ 1.8V at Transducer Full Range Linearity, $\pm 1\%$ of reading

Loader Control Relays

Two, Normally Open, Form A, Rated 120VAC @ 1/2A close contact at 110% CW or CCW or torque/force transducer range

Loader Hand Crank

Input torque 8 ft. lb. Maximum, Output Torque 2,000 ft. lb. Maximum

TTC2800 Motorized Control Loader System

(as above with TTC800 Motorized Control Loader)

Modes

Manual; Auto Dial; Auto 1st Peak

Power Supply

120VAC $\pm 10\%$ Hz @ 3.14A (including motor current);

TTC2800-220V

Power Supply 220VAC $\pm 10\%$ Hz @ 3.14A (including motor current); (with step-down transformer for motor control.)

KRL762PY

TTC2000
Electronic Torque Tester and Calibrator

TTC600



Motor Controller
mounts in this location

TTC2000 Manual System / TTC2800 Motorized System

Description	Application/Use
TTC2000 Components	
TTC600 Mechanical Loader	Applies load to torque wrenches for testing. Includes loader, torque indicator stand, torque pin, protective shield, small transducer adaptor, and power cord. 45" W x 24" D x 9.5" H.
TTC610 Digital Indicator	Torque tester for the TTC2000 System.
KRL762PY Roller/Storage Cabinet	Used to mount TTC600/TTC610 (TTC2000) and store accessories. <i>Not available individually.</i>
TTC2800 Components	
TTC800 Motorized Loader	Applies load to torque wrenches for testing on TTC2800 System.
TTC810 Digital Indicator	Torque Tester for the TTC2800 System
KRL762PY Roller/Storage Cabinet	Used to mount or TTC800/TTC810 (TTC2800) and store accessories. <i>Not available individually.</i>

Complete with all necessary cables and brackets. Sensors sold separately.

Electronic Torque Tester and Calibrator Torque



Transducers

All TTC Series Transducers include the correct adaptor for the indicated torque range.

Stock No.	Description	Drive Size, inches	Range	Bench Top Mounting Bracket
TTC5	Transducer	1/4	15-200 in. oz.	TTC3421
TTC6	Transducer	1/4	4-50 in. lb.	TTC3421
TTC65	Transducer	1/4	15-150 in. lb.	TTC3421
TTC7	Transducer	3/8	30-400 in. lb.	TTC3421
TTC8	Transducer	3/8	80-1000 in. lb.	TTC3421
TTC10	Transducer	1/2	10-125 ft. lb.	TTC3422
TTC11	Transducer	1/2	20-250 ft. lb.	TTC3422
TTC12	Transducer	3/4	60-600 ft. lb.	TTC3422
TTC13	Transducer	1	100-1000 ft. lb.	TTC15001
TTC14	Transducer	1	200-2000 ft. lb.	TTC15001
TTC400*	4-in-1 Transducer	1/4	4-50 in. lb.	—
		3/8	30-400 in. lb.	—
		3/8	80-1000 in. lb.	—
		1/2	20-250 ft. lb.	—

TTC5000-1 4-in-1 Adaptor Plate — — —

*TTC400 requires the TTC5000-1 Adaptor Plate when used with the TTC600 Manual Loader, TTC800 Motorized Loader and VERSA600LDR.

Weight Sets

The following calibration equipment can be used to calibrate any TTC Series Transducer. All weights are NIST (NBS) traceable.

TTC3200	Weight Set #1 (Use for all TTC Series Transducers)
TTC3210	Weight Set #2 (For 200 in. oz. to 250 ft. lb. TTC Series Transducers)
TTC3220	Weight Set #3 (For 600 ft. lb. To 2,000 ft. lb. TTC Series Transducers)

Calibration Wheels / Arms

The following calibration equipment can be used to calibrate any TTC Series Transducer. Arms are certified to manufacturers standards.

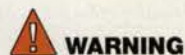
TTC500	2.5" Calibration Wheel, 1/4" sq. dr.
TTC1510	5" Calibration Wheel, 1/4" sq. dr.
TTC1520	10" Calibration Butterfly, 1/2" sq. dr. with adaptors.
TTC1540	40" Calibration Arm, 1 1/4" sq. dr. with adaptors.



Joint Rate Simulator Adaptors

Use with torque tester when testing non-impacting power tools. Square drive adaptor is placed on top of square drive of the torque tester and tightened with a set screw. An adaptor bit is inserted into the power tool and mated to the top of the joint adaptor. By stacking the Belleville washers in set patterns, the joint rate adaptor can simulate soft, medium, or hard joints.

Stock No.	Drive Size, inches	Capacity, in. lb.	Adaptor Bit	Load Screw
QC1JRS50	1/4	50	1/4" Hex x 3/16" Hex	1/4" x 28 x 1
QC2JRS400	3/8	400	3/8" Square Internal x 3/8" Hex	7/16" x 20 x 1.5
QC2JRS1000	3/8	1,000	3/8" Square Internal x 1/2" Hex	5/8" x 18 x 1.5



WARNING

- Counter balance or anchor mounting base.
- Over torquing can cause breakage. Wrench can break while breaking fasteners loose. An out of calibration torque wrench can cause part of tool breakage.
- Do not exceed rated torque.



Force Testing Equipment

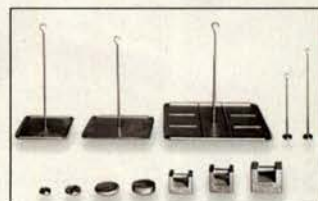
TTC2600	Tensiometer Testing Kit
TTC2610	Tension Gauge Testing Kit
TTC2620	Compression Gauge Testing Kit
TTC2630	Force Arm Kit (Only one is needed for any Force Testing Kit)

- Reaction arms, cables, mounting plates and fixtures are available for testing tension meters plus compression and tension gauges. The TTC600 and TTC800 Loaders and TTC Series Transducers can be configured to deliver compression and tension loads.
- The TTC610/TTC810 Indicator also provides measurement, display, storage and statistical analysis for FORCE inputs.

Weight Hanger / Trays

The following calibration equipment can be used to calibrate any TTC Series Transducer. Weight Trays certified as to weight.

TTC301	Weight Hanger, 8 oz.
TTC3040	Weight Tray, 7.5 lb.
TTC3020	Weight Tray, 15 lb.
TTC3030	Weight Tray, 50 lb.



Accessories

Stock No.	Description
TTC501	PC Cable. Connects TTC610 Digital Indicator to PC.
TTC502	Printer Cable. Connects TTC610 Digital Indicator to printer.
TTC25002	Free standing calibration stand with mounting block and hardware for use with TTC2000/TTC2800 Systems and all TTC Series Transducers.
TTC75002	Torque Screwdriver Testing Kit
TTC900121	Smart Cable Replacement
TTC5500-1	Extension Arm

- Do not use a torque wrench to break fasteners loose.
- Periodic recalibration is necessary to maintain accuracy.
- Broken tools can cause injury.
- Read additional safety precautions on pages M1 to M4.

Hammers

Dead Blow Hammers deliver sustained impact and maximum striking force with almost no rebound.

- Ribbed, textured grip with energy absorbing microcellular material will enhance comfort and reduce vibration.
- Composite handle shank improves the hammer balance while defusing shock.
- Free flowing steel head cannister design improves dead blow action and reduces rebound.
- Non-sparking, chemical resistant molded urethane covering.
- Ribbed thumb rest allows user to choke up in tighter work areas.
- Bright color for high-visibility.



Dead Blow

Soft Grip

Soft Grip Handle with ribbed, textured elastomer grip prevents hand slippage. Composite Handle Shank improves balance while defusing shock and dampening vibration. Improved Thermoplastic Urethane Material is non-sparking and resistant to most shop chemicals. High Visibility Red Color for easy identification.

Stock No.	Weight, oz.	Head Length, inches (mm)	Face Diameter, inches (mm)	Length, inches (mm)
HBFE16	16	3 1/4 (82)	1 1/8 (39)	12 (304)
HBFE24	24	3 3/4 (95)	1 3/4 (44)	12 3/4 (324)
HBFE32	32	4 1/4 (107)	2 (50)	13 1/2 (343)
HBFE48	48	4 3/4 (120)	2 1/4 (57)	15 (381)
HBFE56	56	5 1/8 (138)	2 3/4 (69)	15 3/4 (400)

HBFE103 Dead Blow Set. Includes HBFE24, HBFE32 and HBFE48 Dead Blow Hammers (3 pcs.)

Compact / Sledge / Ball Peen / Drilling / Piston

Stock No.	Weight	Head Length, inches	Face Diameter, inches	Length, inches
<i>Compact Slimline</i>				
HBSE10	10 oz.	3 5/8	1 1/4	10 5/8
HBSE20	20 oz.	4 1/4	1 3/8	11 1/4
HBSE30	30 oz.	5 3/8	1 3/4	12 1/2

<i>Sledge</i>				
BC7B	5 lb.	7	2 3/4	20
BC110B	8 lb.	7	2 3/4	30
BC114B	11 lb. 8 oz.	8	3 1/4	36

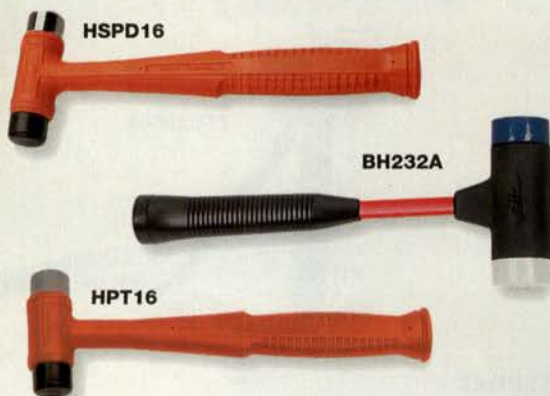
<i>Ball Peen</i>				
HBB8	8 oz.	4	1	11 5/8
HBB16	16 oz.	4 3/8	1 1/4	12 1/4
HBB24	24 oz.	4 3/4	1 3/8	12 3/4
HBB32	32 oz.	5 3/4	1 3/4	13 5/8
HBB40	40 oz.	5 3/4	1 3/4	15 1/8

<i>Dual Face Drilling</i>				
HSSD32	32 oz.	5 3/8	1 3/4-1 3/8	11 1/2

Piston: One-piece urethane construction. Full length canister increases head strength. Made of material that won't damage the piston. Shot-filled head drastically reduces rebound.

HLE24	24 oz.	7 3/4	5 1/2	12 3/4
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Soft Face



Combination

Combination Steel and Soft Face Dead Blow. One-piece urethane construction. Includes replaceable tips.

Stock No.	Head Length, inches	Weight, oz.	Tip Diameter, inches	Length, inches	Soft Tip Stock No.	Hard Tip Stock No.
<i>Dead Blow</i>						
HSPD16	4 3/8	16	1 1/4	12 1/8	HPTS16	—
BH232A*	—	32	1 5/8	13	BH232-2	BH232-3
*BH232-4 Optional nylon tip. (also available)						
<i>Plastic</i>						
HPT16	3 3/4	16	—	12	—	HPTH16
HPT24	4 3/4	24	—	12 3/4	HPTS24A	HPTH24A

Soft Blow

Designed to reduce marring and denting. Use in assembly applications and on all types of surfaces including metal, glass, plastic and wood. Special polymer head resists dynamic fatigue, creep and compression set, even at extreme temperatures.

Stock No.	Face Dimensions, in.	Head Color	Length, inches
BF623	1 7/8 x 2 1/8	Blue	12 1/2



Bronze

Bronze Tip. One-piece urethane construction. Handles are specially contoured for a safe and comfortable grip. Bronze faces are soft enough to "give" when contact is made with metal parts.

Stock No.	Weight, oz.	Head Length, inches	Head Diameter, inches	Length, inches
HBT16	16	3 3/4	1 3/8	12
HBT24	24	4 1/4	1 3/8	12
HBT32	32	4 1/2	1 1/2	12 3/4



Soft Face



Brass

Non-sparking / non-marring surface for many applications. Brass head absorbs blow and reduces rebound. Flat surface for even distribution of blow. Fiberglass handle for strength. Comfortable, non-slip handle grip.

Stock No.	Weight, lbs.	Length, inches
HBR15	1 1/2	12
HBR25	2 1/2	12

Interchangeable Head

Shot loaded, dead blow hammer adds 35% more striking force with each swing by eliminating rebound and dampening vibration shock to the hand and forearm. 1 1/2" striking face diameter on each hammer head. Six interchangeable heads meet a number of various applications, including non-marring and non-sparking applications with selected head surfaces. Comfortable, non-slip handle grip. Set includes 10" fiberglass handle and plastic storage case. 1" Head Extender is optional.



HSPI6KT Dead Blow Set. Includes HSPI6KT2 thru HSPI6KT7 Hammer Heads plus HSPI6KT1 Hammer Handle (7 pcs) in HSPI6KT8 Plastic Storage Case.

Stock No.	Description	Color	Weight, oz.
HSPI6KT1	Hammer Handle	—	22
HSPI6KT2	Soft Face	Brown	1.5
HSPI6KT3	Medium Face	Red	1.4
HSPI6KT4	Medium Hard Face	Cream	1.3
HSPI6KT5	Hard Face	Black	1.3
HSPI6KT6	Steel Face	Steel	2.2
HSPI6KT7	Brass Face	Brass	2.2
HSPI6KT8	Plastic Storage Case	Black	—
HSPI6KT9	1" Head Extender	—	—

Hickory Handle

Stock No.	Weight, oz.	Handle Length, inches	Replacement Handle
BP2B	9 1/2	2	BPH2C
BP4B	10 1/2	4	BPH4C
BP8B	12 1/2	8	BPH8C
BP12B	13 1/2	12	BPH12C
BP16B	14 1/2	16	BPH16C
BP20B	15	20	BPH20C
BP24B	16	24	BPH20C
BP32B	16	32	BPH40C
BP40B	16 1/4	40	BPH40C
BP48B	16 1/4	48	BPH40C

ANSI Spec. B173.2

BP1004S Hammer Set. Includes BP8B, BP12B, BP16B, and BP24B (4 pcs).



Fiberglass Handle

Stock No.	Weight, oz.	Handle Length, inches	Replacement Handle
BPN8B	8	11	BPNH8B
BPN12B	12	12	BPNH12B
BPN16B	16	13	BPNH12B
BPN24B	24	14	BPNH24B
BPN32B	32	16	BPNH24B

ANSI Spec. B173.2

Claw



Serrated Face

Framing (Fiberglass Handle)

Stock No.	Face Diameter, inches (mm)	Length, inches (mm)	Weight, lbs. (kg)
BCN21	1 3/4 (35.24)	15 3/4 (390.53)	2 (0.90)
BCN21HS	1 3/4 (35.24)	15 3/4 (390.53)	2 (0.90)



Smooth Face

Heavy Duty



BH122D Engineer - Ideal for bending and straightening heavy metal objects or using special tools such as striking wrenches or hammer-type wheel hub pullers. Hickory handle.



BH141A Cross Peen - Use for forming and straightening heavy metal, separating truck tires from rims, and removing welding slag. Hickory handle.



BH133B Hand Drilling - The short handle length is convenient for working with hand drilling bits, cold chisels, or brick chisels. Hickory handle.

Fiberglass Handle

Fiberglass handle dampens vibration and provides extra strength and safety. Handle is epoxy-welded to hammer head and will withstand 8,000 lbs. of pull. Handle is resistant to dry rot, warp or splintering. Comfortable, non-slip handle grip. Materials will resist most shop chemicals.

Stock No.	Description	Weight, lbs.	Face Diameter, inches	Handle Length, inches	Overall Length, inches	Replacement Handle
BC4SG	Cross Peen	4	1 1/2	12	14	BD4SG-1
BD4SG	Engineer's	4	1 1/2	12	14	BD4SG-1
HD4SG	Hand Drilling	4	1 1/2	8 3/4	10 3/4	HD4SG-1
BD6ESG	Sledge	6	5/8	16	16	BD6ESG-1
BD8ESG	Sledge	8	1 7/8	32	32	BD8ESG-1
BD10ESG	Sledge	10	2	32	32	BD8ESG-1

Stock No.	Weight, oz.	Head Length, inches	Overall Length, inches	Replacement Handle
BH122D	40	4 1/2	15	BPH40C
BH123D	48	4 3/4	15	BPH40C
BH141A	32	4 1/2	15	BPH20C
BH142A	40	5	15	BPH40C
BH143A	48	5 1/2	15	BPH40C
BH133B	48	4 1/2	10	BPH133



WARNING

- Do not urethane hammers near liquid oxygen.
- Do not use chipped, mushroomed, or cracked hammers.
- Strike squarely; avoid glancing blows.
- Read additional safety precautions on pages M1 to M4.







See Warranty Information on inside front cover.






Punches / Chisels

The anvil end on heads on Snap-on® punches and chisels are machined to a modified parabolic curve. This design directs the striking force to the center of the tool head to allow slow metal displacement. The parabolic curve controls mushrooming to reduce chipping and splitting. Heads should be re-dressed to their original

shape with hand files as necessary. The tough steel alloy is machined and differentially heat treated for optimum performance. The hardness of the striking head is reduced to help toughness and add qualities that result in a slower mushrooming of the striking surface.



	Stock No.	Hex Size, in.	Point/Edge, in.	Length in.
Punch and Chisel Accessories				
	PPC1A	—	—	2 5/8
	Chisel Gauge			
	PPC5A	—	—	6 15/16
	Punch/Chisel Holder			
Center Punches				
	PPC3A	5/16	1/8	5
	PPC4A	7/16	3/16	6
	PPC6A	5/8	5/16	7
	PPC714A	9/16	5/32	14
	Long Center Punch			
Pin Punches				
	PPC103A	9/32	3/32	4 7/32
	PPC104A	5/16	1/8	4 3/4
	PPC105A	3/8	5/32	5
	PPC106A	3/8	3/16	5 1/4
	PPC107A	3/8	7/32	5 1/4
	PPC108A	7/16	1/4	5 3/4
	PPC110A	1/2	5/16	5 1/4
	PPC112	9/16	3/8	5 1/4
	PPCM104L			
	(Metric)	9.5mm	4mm	203.2mm
Starter Punches				
	PPC203A	5/16	3/32	5 1/2
	PPC204A	3/8	1/8	5 3/4
	PPC205A	3/8	5/32	6
	PPC206A	7/16	5/32	6 1/4
	PPC208A	1/2	1/4	6 3/4
	PPC210A	9/16	5/16	7 1/4

Stock No.	Hex Size, in.	Point/Edge, in.	Length in.		
				<i>Flat Chisels</i>	
PPC808	1/4	1/4	5		
PPC812A	5/16	3/8	5 1/2		
PPC816A	7/16	1/2	6		
PPC820A	1/2	5/8	6 1/2		
PPC824A	5/8	3/4	7 1/4		
PPC828A	11/16	7/8	8		
PPC832A	7/8	1	9		
PPC820LA	1/2	5/8	16		
1020A	5/8	3/4	11		
1024A	3/4	7/8	12		
1628A	3/4	1 5/16	16		
PPC12A	3/8	5/16	6		
					<i>Half Round Nose Cape Chisel</i>
					<i>Cape Chisels</i>
PPC13A	5/16	1/4	5 5/8		
PPC14A	3/8	5/16	6		
					<i>Diamond Point Chisels</i>
PPC15A	7/16	7/32	6		
PPC19A	3/8	1/8	5 3/4		

PPC270AK



PPC270AK Punch and Chisel Set

Includes the following 27 pcs. in C2700A Kit Bag:

PPC1A PPC106A PPC206A PPC828A
PPC5A PPC108A PPC208A PPC12A
PPC3A PPC110A PPC210A PPC13A
PPC4A PPC112 PPC812A PPC14A
PPC103A PPC203A PPC816A PPC15A
PPC104A PPC204A PPC820A PPC19A
PPC105A PPC205A PPC824A

PPC210AK



PPC210AK Punch and Chisel Set

Includes the following 21 pcs. in C2201A Kit Bag:

PPC1A PPC105A PPC203A PPC210A
PPC3A PPC106A PPC204A PPC812A
PPC4A PPC108A PPC205A PPC816A
PPC103A PPC110A PPC206A PPC820A
PPC104A PPC112 PPC208A PPC824A
PPC828A

PPC715A Punch and Chisel Set (in Plastic Tray)

16 pcs. include:

PPC1A PPC104A PPC203A PPC208A
PPC3A PPC105A PPC204A PPC812A
PPC4A PPC106A PPC205A PPC816A
PPC103A PPC108A PPC206A PPC820A



PPC710A Pinch and Chisel Set (in Plastic Tray)

11 pcs. include:

PPC1A PPC105A PPC205A PPC816A
PPC4A PPC106A PPC206A PPC820A
PPC103A PPC203A PPC812A

PPC50K Flat Chisel Set

Includes the following 5 pcs. in C0500 Kit Bag:

PPC812A PPC820A PPC828A
PPC816A PPC824A

PPC100K Chisel Set

Includes the following 10 pcs. in C1004 Kit Bag:

PPC812A PPC824A PPC13A PPC15A
PPC816A PPC828A PPC14A PPC19A
PPC820A PPC12A

PPC715A



PPSD120K



PPSPD120K Pin and Starter Punch Set

Includes the following 12 pcs. in C1203 Kit Bag

PPC103A PPC106A PPC203A PPC206A
PPC104A PPC108A PPC204A PPC208A
PPC105A PPC110A PPC205A PPC210A

PPCD70K



PPCD70K Pin Punch Set

Includes the following 7 pcs. in C0709 Kit Bag


PPC103A PPC106A PPC108A
PPC104A PPC107A PPC110A
PPC105A


PPCS60K Starter Punch Set


Includes the following 6 pcs. in C0604 Kit Bag

PPC203A PPC205A PPC208A
PPC204A PPC206A PPC210A

Punches / Chisels

	Stock No.	Hex Size, in.	Point/Edge, in.	Length, in.
<i>Roll Pin Punches</i>				
	PPR2	—	1/16	3 5/32
	PPR2-1/2	—	5/64	3 1/2
	PPR3	—	3/32	3 23/32
	PPR4	—	1/8	4 1/4
	PPR5	—	5/32	4 5/8
	PPR6	—	3/16	5
	PPR7	—	7/32	5 3/8
	PPR8	—	1/4	5 3/4
	PPR10	—	5/16	6 1/8
	PPR12	—	3/8	6 1/8
	PPR14	—	7/16	6 1/8
	PPR16	—	1/2	6 1/8

<i>Long Pin Punches</i>				
	PPC104LA	5/16	1/8	5 5/16
	PPC105LA	3/8	5/32	6 1/2
	PPC106LA	3/8	3/16	7 1/16
	PPC107LB	3/8	7/32	7 5/8
	PPC108LA	7/16	1/4	8 3/16
	PPC110LA	1/2	5/16	8 3/4

<i>Midget Punches and Chisels</i>				
	PPC402A	5/32	1/16	3
	Pin Punch			
	PPC403A	5/32	1/8	3 1/4
	Pin Punch			
	PPC404A	5/32	3/32	3 5/8
	Center Punch			
	PPC405A	5/32	1/16	3 3/4
	Starter Punch			
	PPC408A	—	5/16	4 1/8
	Flat Chisel			
	PPC406A	5/32	3/16	3 7/8
	Cape Chisel			
	PPC407A	5/32	5/32	4
	Cape Chisel			

PPR712K Roll Pin Punch Set

Includes the following 12 pcs.

in C1207 Kit Bag:

PPR2	PPR5	PPR10
PPR2-1/2	PPR6	PPR12
PPR3	PPR7	PPR14
PPR4	PPR8	PPR16



PPR712K

PPR708K



PPR708K Roll Pin Punch Set

Includes the following 8 pcs.

in a C0802A Kit Bag:

PPR2	PPR4	PPR7
PPR2-1/2	PPR5	PPR8
PPR3	PPR6	

PPCL60AK

PPCL60AK Long Pin Punch Set

Includes the following 6 pcs.

in a C0608A Kit Bag:


PPC104LA	PPC106LA	PPC108LA
PPC105LA	PPC107LB	PPC110LA



PPVP70AK Midget Punch and Chisel Set

Includes the following 7 pcs. in C0702 Kit Bag:

PPC402A	PPC404A	PPC408A	PPC407A
PPC403A	PPC405A	PPC406A	

Stock No.	Hex Size, in.	Point/Edge, in.	Length, in.	
<i>Drift Pin Punches</i>				
PPC905A	3/8	5/32	8	
PPC908A	7/16	1/4	8 1/2	
PPC910A	1/2	5/16	9	
PPC912A	9/16	3/8	9 1/2	
1210A	5/8	5/16	12	
1512A	3/4	3/8	15	
1816A	7/8	1/2	18	<i>Heavy-Duty Punches</i>
7012	3/4	3/8	7	
7016	7/8	1/2	7	

PPB408	—	1/4	4	<i>Bronze Pin Punches</i>
PPB612	—	3/8	6	

PPB816	—	1/2	8	<i>Bronze Drift Punches</i>
PPB826	—	13/16	8	
PPB1226	—	13/16	12	

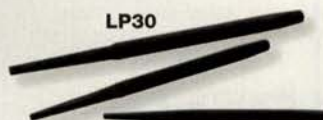
PPB1001	5/8	3/8	8	<i>Bronze Tapered Punches</i>
PPB1012	—	3/8	10	
PPB1414	—	7/16	14	

PPB1002	—	3/4	10	<i>Bronze Round Punch</i>
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PPPLT40K Drift Pin Punch Set

Includes the following 4 pcs. in C0402 Kit Bag:

PPC905A PPC908A PPC910A PPC912A



LP30

LP30 Drift Pin Punch Set

3 pcs. include:

1210A 1512A 1816A

PPB30K Bronze Punch Set

Includes the following 3 pcs. in C0300B Kit Bag:

PPB408 PPB612 PPB816

PPBL30K Bronze Punch Set

Includes the following 3 pcs. in C0301B Kit Bag:

PPB1012 PPB1226 PPB826

PPB20K Bronze Tapered Punch Set

Includes the following 2 pcs. in C0200B Kit Bag:

PPB1012 PPB1414

PPBL30K



WARNING

- Do not use punches or chisels having chipped or mushroomed ends; dress dull edges or mushroomed ends to original shape with a hand file.
- Hammer head diameter should be no more than 3/8" larger than head of punch or chisel.



Punches / Chisels



PPC14LA

Oval Bearing Race Punches Specially heat-treated, high-alloy steel makes these tools ideal for stubborn bearing races.

PPC6LA 7/16" hex stock, 7/16" x 15/64" oval point, 6" long.

PPC10LA 1/2" hex stock, 1/2" x 17/64" oval point, 10" long.

PPC14LA 9/16" hex stock, 9/16" x 19/64" oval point, 14" long.

PPC20LA 9/16" hex stock, 5/8" x 5/16" oval point, 20" long.

PPC704A Punch Set. Includes PPC6LA thru PPC20LA (4 pcs).



GA1

GA1 Bushing Cutter (7 1/4" long). Made of 1/2" octagonal stock with a 7/16" x 1/8" bit. Curved bit pushes material away from work.



YA900



YA879

YA900 Automatic Center Punch (4 3/4" long). Strikes blow when pressure is applied—no hammer needed. Cap adjusts force of blow. 7/16" diameter.

YA879 Heavy-Duty Automatic Center Punch (5" long). Single-handed operation. Design eliminates need for striking with hammer. Adjustable spring tension cap. Hardened steel point is replaceable. 1/2" diameter.

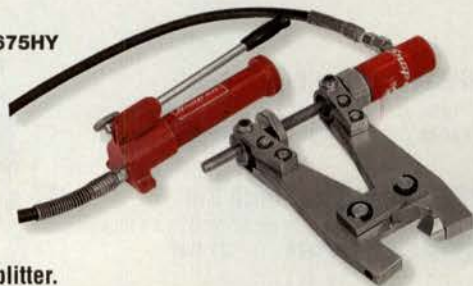


YA8290

YA8290 Revolving Punch. Punch round holes in leather, rubber, plastic, canvas, gaskets, and other similar materials. Six punch sizes included in tool: 5/64", 3/32", 7/64", 1/8", 9/64" and 5/32".

Nut Splitters and Cable Cutters

CG675HY



Hydraulic Nut Splitter.

CG675HY Six tons of controlled hydraulic power for removal of frozen or corroded nuts up to 2H hardness and 1 3/4" across the flats or 2" hex on soft nuts. Includes CG652 Ram and Pump Set. Has a 1 1/2" stroke.

CG675 Nut splitter without the hydraulics.

Manual Nut Splitter.

NC52 Nut Splitter. For splitting nuts up to 3/4" across the flats. Bar acts as a handle to hold tool securely.

NC52-3 Extra Cutter.

NC52-4A Anvil.



NC52

Specialty Punches

PGH8A



PGH8A Gasket Punch Set. Cuts holes in gaskets and other soft materials. Includes 5 3/8" long mandrel and ten punches: 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 3/4", 7/8", and 1" in a blow-molded plastic box.

DPFT528A



DPFT528A Transfer Punch Set.

For transferring hole patterns. Set includes punches from 3/32" to 1/2" in 1/64" increments plus 17/32". Each punch is marked with its size and manufactured from tempered steel to promote long tool life. A metal index provides convenient storage. Punches are 4 7/8" in length.

GA237



Steel Stamping Sets.

Heat-treated square stamp bodies.

Stored in two-piece wooden containers.

Stock No.	Characters	Number Stamps	Figure Size, inches	Square Body, inches	Length, inches
GA237	0-9*	9	3/16	5/16	2 7/16
YA817	0-9*	9	1/8	1/4	2 3/8
GA238	A-Z**	27	3/16	5/16	2 7/16
YA818	A-Z**	27	1/8	1/4	2 3/8

*One stamp serves as both 6 and 9.

**Also includes stamp for period.



CG410HY

Hydraulic Cable Cutters

CG410HY Cut steel cable up to 1 1/2" in diameter easily with up to 29 1/3 tons of force generated by this hydraulic package. The hardened tool steel cutting blade and die make clean, square cuts and provide long, dependable service. Both can be resharpened. Includes CG420-2A pump, CG420-3-1 hose, and CG420-4 coupler set.

CG410HY2S Hydraulic cable cutter with Two-Stage Pump.

CG410 Cable Cutter without the hydraulics.

CG420-2A One Stage 20-ton, 35-ton, and 50-ton Pump.

CG420-3-1 Hose.

CG420-4 Coupler.

Prybars

Prybars

"Rolling head" acts as fulcrum and provides leverage. The pointed end is useful in many aligning applications.

Stock No.	Stock, inches	Length, inches
650	5/16	6
1250	7/16	12
1650	9/16	16
2050	1 1/16	20

PBS704 Prybar Set. Includes 650 thru 2050 (4 pcs).

Close Quarters Bars

Designed to provide powerful leverage where space is at a premium. Ideal for aligning molds.

Stock No.	Stock, inches	Tip Width, inches	Length, inches
7030	3/8	7/16	9
7031	1/2	9/16	16
7032	5/8	3/4	18

UB222PK Miniature Utility Bar. Small size provides access in tight quarters. Pull nails, tacks or staples. Pry open lids and drawers. Scrape paint, glue and gaskets. Chrome plated for corrosion protection. Overall dimensions of 5 3/8" x 1 1/4" x 5/8". Available in 10 pack UB222PK.

SB215 Use for prying, nail pulling, and scraping. "Shepherd's Crook" head for maximum leverage. Sharp, tapered blades are easily inserted without risk of denting or marring surface. Blades are drop forged for extra toughness. Three beveled nail slots. Overall length of 15" (381 mm). Weight is 11/2 lbs. (.68kg).

Die Setter Bars

Designed for separating, scraping, or prying.

Stock No.	Stock, inches	Tip Width, inches	Length, inches
7035	5/8	7/16	18
7037	3/4	9/16	30

Wrecking Bar

Has a slotted claw on "gooseneck" end and a chisel configuration on the other.

Stock No.	Stock, inches	Length, inches
NPB124A	3/4	24

Pinch Bars

Stock No.	Stock, inches	Edge, inches	Length, inches
1515	5/8	13/16	15
1658B	1/2	5/8	16
2420	3/4	15/16	20
2430B	3/4	5/8	30

Slate Bar

Stock No.	Stock, inches	Edge, inches	Length, inches
3260A	1	1/2	60

SPB704A



SPB704AO



SPB704AY



Prybars with Handles

Plastic, screwdriver-type handles have a lightweight design and offer a comfortable grip as well as powerful leverage potential.

Stock No.		Square Shank, inches	Tip Width, inches	Length, inches
SPB8A	Black	1/4	7/16	8
SPB12A	Black	3/8	9/8	12
SPB18A	Black	7/16	23/32	18
SPB24A	Black	7/16	13/16	24
SPB36	Black	5/8	1 1/8	36 5/8
SPB36O	Orange	5/8	1 1/8	36 5/8
SPB36R	Red	5/8	1 1/8	36 5/8
SPB36Y	Yellow	5/8	1 1/8	36 5/8

SPB704A Black Handle Prybar Set. Includes SPB8A thru SPB24A (4 pcs) in a plastic tray.

SPB704AO Orange Handle Prybar Set. Available in orange as set only. Same sizes as SPB704A.

SPB704AY Yellow Handle Prybar Set. Available in yellow as set only. Same sizes as SPB704A.

SPB704AR Red Handle Prybar Set. Available in red as set only. Same sizes as SPB704A.

Multi-Purpose Bar

Use as a prybar, scraper or screwdriver. Plastic screwdriver-style handle offers a comfortable grip as well as powerful leverage potential.

Stock No.		Square Shank, inches	Tip Width, inches	Blade Length, inches	Length, inches
MSD4	Black	1/4	5/16	4	7 21/32
MSD8	Black	5/16	3/8	8	12 13/32
MSD12	Black	3/8	1/2	12	16 15/16

MSD103 Multi-Purpose Bar Set. Includes MSD4, MSD8 and MSD12 (3 pcs) in plastic tray.



KR294 Hang-on Prybar Rack.

Hang up to four prybars or long tools with handles. Notched angle plate keeps tools from shifting. Suspend from roll cab or tool chest with 1/4" or more lip.



WARNING

- Do not use prybars as punches or chisels.
- Do not use prybars that are chipped or cracked.



Files File Sets

Bastard Cut Sets - Soft Grip Handle

File Stock No.	Diameter, inches	Cut Length, inches	Length, inches
<i>Round</i>			
6R	7/32	—	6
8R	9/32	—	8
10R	3/8	—	10
12R	1/2	—	12
<i>Mill</i>			
4MA	—	3 3/4	4
6MA	—	5 1/2	6
8MA	—	7 1/2	8
10MA	—	9 1/2	10
12MA	—	11 1/2	12
14MA	—	13 1/2	14
<i>Half Round</i>			
6HR	—	—	6
8HR	—	—	8
10HR	—	—	10
12HR	—	—	12

SGHBF400



SGHBF400 Red Handle Half Round File Set. Includes 6HR, 8HR, 10HR, 12R round files (4 pcs) (6" to 12") plus two (2) SGHF614, one (1) SGHF615 and one (1) SGHF616 soft grip handle in CO415A Kit Bag.

HBF100



Miniature Files with Plastic Handles

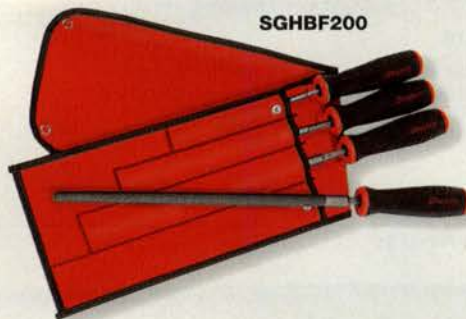
Miniature files for general use in small scale and delicate applications. Molded plastic handles provide maximum grip and comfort.

File Stock No.	File Type	Overall Length, inches
HBF4MA	Hand File	7 1/4
HBF4W	Warding File	7 1/4
HBF4HR	Half Round File	7 1/4
HBF4SQ	Square File	7 1/4
HBF4R	Round File	7 1/4
HBF4T	Slim Taper Triangular File	7 1/4

HBF100 Miniature Mixed Set

Includes files HBF4MA, HBF4SQ, HBF4R, HBF4W, HBF4HR, and HBF4T (6 pcs) in a plastic pouch.

SGHBF200



SGHBF200 Red Handle Round Bastard Cut File Set. Includes 6R, 8R, 10R, and 12R, round files (4 pcs) (6" to 12") plus two (2) SGHF614, one (1) SGHF615 and one (1) SGHF616 soft grip handle in CO413A Kit Bag.

SGHBF300



SGHBF300 Red Handle Mill Bastard Cut File Set. Includes 6MA, 8MA, 10MA, and 12MA mill files (4 pcs) (6" to 12") plus two (2) SGHF614, one (1) SGHF615 and one (1) SGHF616 soft grip handle in CO414A Kit Bag.

SGHBF500



SGHBF500 Red Handle Mixed Set.

Includes 8MA and 10MA mill files, 6T three square file and 8R round file plus SGHF614 handle (2 each), SGHF615 handle (1 each) SGHF616 handle (1 each) in CO416A Kit Bag.

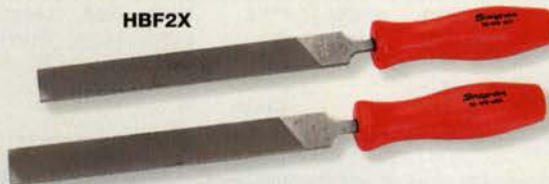
SGHBF500O Orange Handle Mixed Set

Includes 8MA and 10MA mill files, 6T three square file and 8R round file plus SGHF614O handle (2 each), SGHF615O handle (1 each) SGHF616O handle (1 each) in CO416A Kit Bag.

SGHBF500G Green Handle Mixed Set

Includes 8MA and 10MA mill files, 6T three square file and 8R round file plus SGHF614G handle (2 each), SGHF615G handle (1 each) SGHF616G handle (1 each) in CO416A Kit Bag.

HBF2X



HBF2X Plastic Handle Multi-Purpose Mixed File Set.

Set includes rasp file for rough filing on metal, wood and plastic and sharpening file for fine sharpening of edges. Red screwdriver-style handles provide firm control and comfortable grip. Available as complete set only.



Three Square Files

6T. 6" long, 5 1/2" cut length.
8T. 8" long, 7 1/2" cut length.
10T. 10" long, 9 1/2" cut length.



Multi-Cut Flat File

10FMK. 10" long.

Swiss Needle

HBFN120 Set. Twelve needle files with round, knurled handles. Each is 5 1/2" long and "0" cut for coarse filing. Packaged in a plastic pouch. See set components below.

5NR	●	Round	5NTS	▲	3-Square
5NHR	◐	Half-Round	5NE	▬	Equaling
5NF	▬	Flat	5NB	▴	Barrette
5NC	◐◑	Crossing	5NJ	◊	Joint
5NK	◄	Knife	5NS	◄◄	Slitting
5NSQ	■	Square	5NM	◄◄◄	Marking

HF611 File Handle. Plastic screwdriver collet-style handle for holding individual files in HBFN120 Set.



Chain Saw Files

Single Cut
6CR. 6" long, 5/32" diameter.
8CR. 8" long, 7/32" diameter.



Square File

8BSQ. 10" long.

HBFN120



Accessories

SGHF614



SGHF616



Soft Grip Handles

For all bastard cut files listed on page 288. Soft, solvent resistant handle material provides a sure, comfortable hand grip. Contour thumb stop and comfort crown help to apply maximum pressure and give you the strongest, most comfortable grip possible. Feature twist-on threads for securely holding files.

Red	Green	Orange	For Files
SGHF614	SGHF614G	SGHF614O	4MA, 6CR, 6R, 6T, 6MA, 6HR, 8CR, 8R
SGHF615	SGHF615G	SGHF615O	8T, 8MA, 8HR, 10R
SGHF616	SGHF616G	SGHF616O	10T, 10MA, 10HR, 12R
SGHF617	SGHF617G	SGHF617O	12MA, 12HR

GA613



Wooden Twist-on Handles

For all bastard cut files listed on page 288. Each handle features case-hardened, threaded steel inserts.

Stock No.	For Files
GA613	4MA, 6CR, 8CR, 6R
GA614	6T, 6MA, 6HR, 8R
GA615	8T, 8MA, 8HR, 10R
GA616	10T, 10MA, 10HR, 12R
GA617	12MA, 12HR
GA618	14MA, 16MA

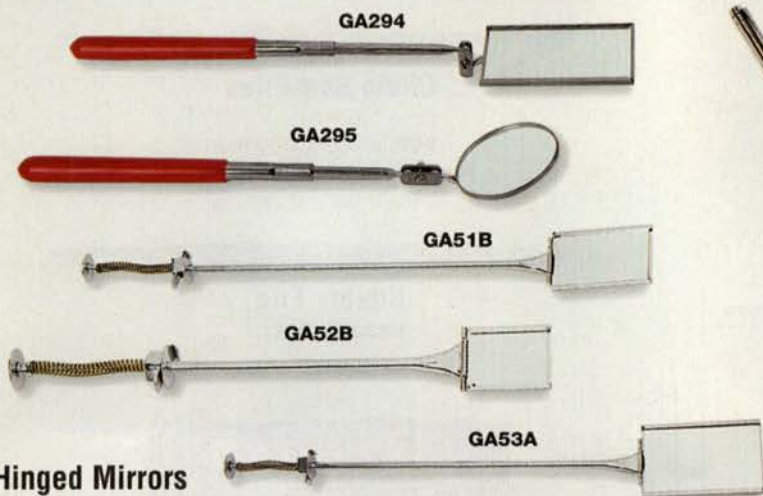
GA98A



Wooden Adjustable Jaw Handle

GA98A. Provides a large, comfortable grip for all bastard cut files. Adjustable jaws grip the file so it can't turn. Use on files 4" to 16" long. 4 1/2" long, 1" in diameter, 3/8" maximum opening.

Mirrors / Pick-up Tools Mirrors



Hinged Mirrors

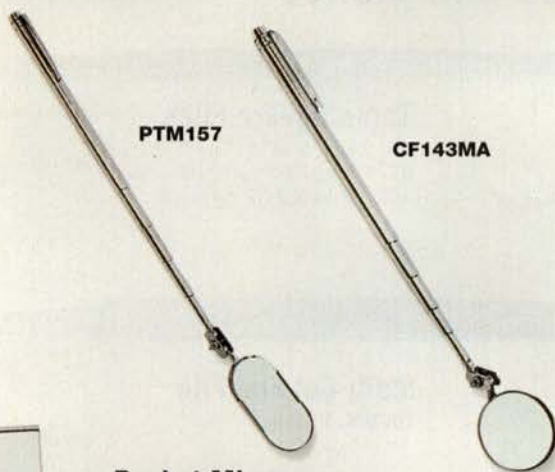
GA294 Rectangular Mirror.

Has double ball joints that allow mirror to swivel a full 360°. Electrolytic plated copper backing. Features non-rotating telescoping rods. Vinyl grip. 2 1/8" x 3 1/2" mirror. Closed length is 11 1/4"; extended length is 15 1/4".

GA295 Round Mirror.

Similar to GA294 except with a 2 1/4" diameter mirror. Closed length is 10"; extended length is 14".

Stock No.	Description	Overall Length, inches (mm)	Mirror Size, inches (mm)	Glass Replacement Mirror	Plastic Replacement Mirror
GA51B	Glass Mirror	16 1/2 (419.1)	1 1/16 x 2 3/16 (42.9 x 65.1)	GA51B1	GA51B1P
GA52B	Glass Mirror	11 (279.4)	1 3/16 x 1 1/2 (30.1 x 38.1)	GA52B1	—
GA53A	Glass Mirror	16 1/2 (419.1)	2 3/16 x 3 3/8 (58.7 x 85.7)	GA53A1	GA53A1P



Pocket Mirrors

PTM143 Round Pocket Mirror. Handle extends from 4 1/2" to 17". Mirror is 1 1/4" in diameter. Hinge mechanism allows 360° adjustment. Includes pocket clip.

CF143MA Round Pocket Magnifying Mirror.

Similar to PTM143.

PTM147 Round Pocket Mirror.

Similar to PTM143 except with 3/4" diameter mirror.

PTM157 Oval Pocket Mirror.

Similar to PTM143 except with 1" x 2" oval mirror.



Lighted Mirrors

CM6570 Lighted Mirror Kit. Two Lucite rods for projecting light are included (one straight, one curved). 7/8" diameter mirror clips securely on the rods.

High intensity xenon bulb is powered by two AA batteries (included). 12" long.



YA5160A Lighted Adjustable Mirror. Mirror size is 1 1/8" x 2 1/8" with 1X magnification. Thumb wheel adjustment on handle. Light at base of 18" long flexible handle is powered by two AA batteries (included).

YA51601 Replacement Mirror. 1X.

YA51602 Replacement Mirror. 2X.

YA5160A3 Replacement Bulb.



Telescoping Mirrors

UIM125 Telescoping Inspection Mirror. 1 1/4" diameter mirror. 6 1/2" long, and extends to 35".

UIM225 Telescoping Inspection Mirror. 2 1/4" diameter mirror. 6 1/2" long, and extends to 35".

UIM325 Telescoping Inspection Mirror. 3 1/4" diameter mirror. 6 1/2" long, and extends to 29 1/2".



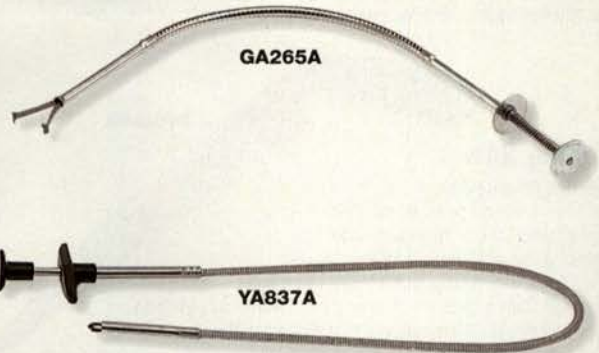
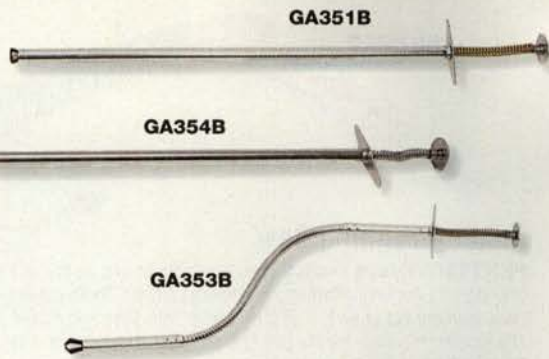
TKSS01MIR Hinged Rectangle Mirror. Steel mirror won't shatter if dropped. Hinged for accurate positioning. Telescopes from 7" (177.8mm) to 28 1/2" (723.9mm). Mirror surface is 3.12" x 2" (79.4 x 50.8mm). In retracted position, it will easily fit in shirt pocket. Comfortable handle is easily gripped with greasy hands.



Magnetic Mirror

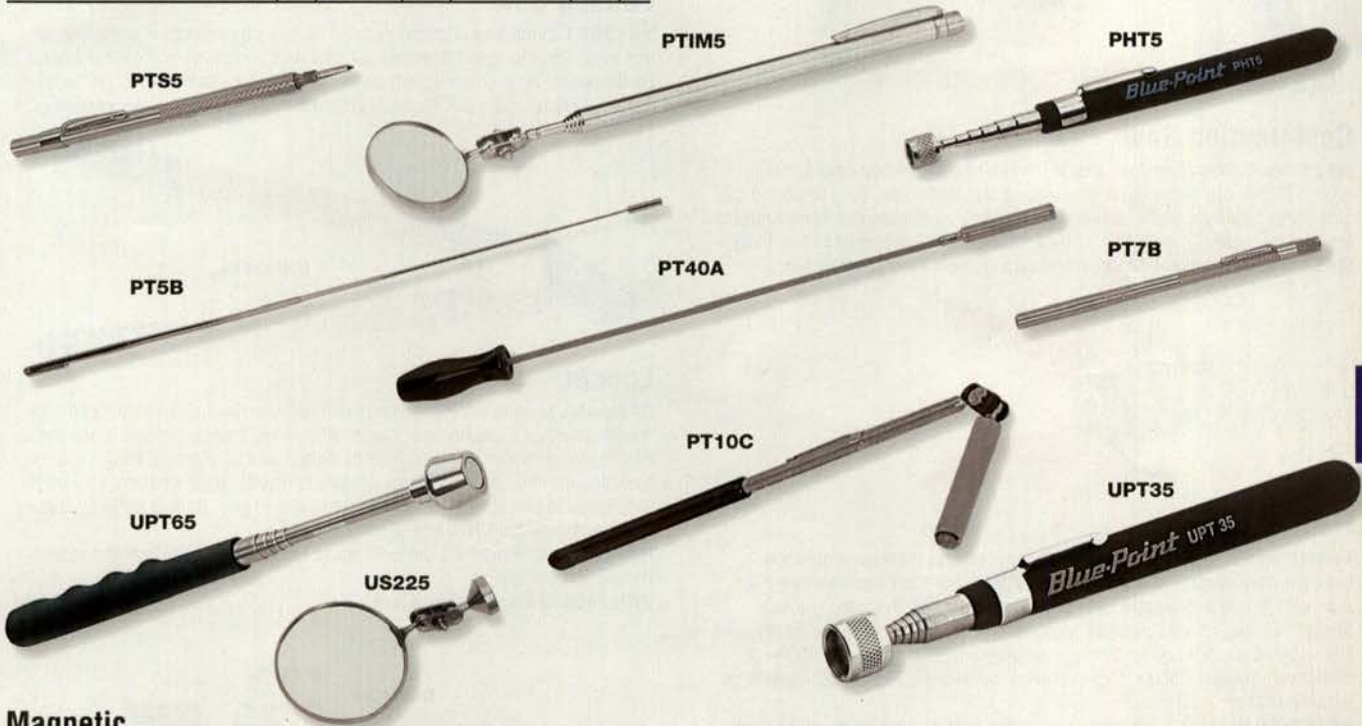
UMS225 Round Magnetic Mirror. Strong magnet allows one hand adjustment of mirror. Magnet side is shielded to prevent attachment to unwanted surface. Two swivel joints can be adjusted for tension. All steel construction. 2 9/16" (55.5mm) diameter glass mirror. Overall length is 7" (177.8mm).

Mirrors / Pick-up Tools



Claws

Stock No.	Description	No. of Claws	Max. Jaw Opening, inches (mm)	Flexible Section Length, inches (mm)	Overall Length, inches (mm)
GA265A	Flexible	2	1 (25.4)	8 (203.2)	17 3/4 (450.9)
YA837A	Flexible	2	3/4" (19.1)	16 (406.4)	23 1/2 (596.9)
GA351B	Rigid	2	1 (25.4)	—	14 (355.6)
GA354B	Rigid	4	1 (25.4)	—	14 1/2 (368.3)
GA353B	Flexible	4	1 (25.4)	8 (203.2)	17 1/2 (444.5)



Magnetic

Hinged head magnetic pick-up tools. Powerful magnets are fitted into the brass sleeve on these units. Adjustable hinged heads.

PTS5 Magnetic Pick-up Tool/Scribe. Magnet in one end and a replaceable carbide steel scribe tip at the other. Includes pocket clip. 5" long. Do not use as a prybar or punch.

PTIM5 Magnetic Pick-up and Inspection Tool with Adjustable Mirror.

Magnet end lifts 1 1/2 lb. Length is 26 3/4" extended, closes to 5 7/8". Mirror end is 1 1/4" in diameter. With pocket clip.

PT5B Magnetic Telescopic Pick-up Tool. This 5 7/8" tool extends to 25 9/16". Magnet lifts 1 1/2 lb. Includes pocket clip.

PHT5 Magnetic Telescopic Pick-up Tool. Lifts 2.5 lbs. Chrome plated shaft extends from 5 1/2" to 25 1/2". Black cushion grip will not slip in oily or wet hands. Includes pocket clip.

PT7B Magnetic Pick-up Tool. Lifts 1 lb. and is 6" long.

PT40A Flexible Magnetic Pick-up Tool. Magnet lifts 3 1/2 lb. Length is 21", including a 14" flexible section.

PT10C Pick-up Tool. Lifts 1 lb., 8 5/8" long.

PT28E Pick-up Tool. Lifts 2 lb., 16 3/4" long, and extends to 26 3/4". Aluminum head. Probe O.D. is .50".

PT30B Pick-up Tool. Lifts 6 1/2 lb., 17" long, and extends to 27 1/8".

UPT15 Magnetic Telescopic Pick-up Tool. Lifts 2 lbs., 6 5/8" long, and extends to 33 1/4".

UPT35 Magnetic Telescopic Pick-up Tool. Lifts 4 1/2 lbs., 6 5/8" long, and extends to 33 1/4".

UPT50A Magnetic Telescopic Pick-up Tool. Lifts 10 lbs., 6 5/8" long, and extends to 33 1/4".

UPT65 Magnetic Telescopic Pick-up Tool. Perfect for retrieval of heavy ferrous objects in hard to reach areas. Goblet-shaped magnetic head pushes the flux to the front of the magnet enabling the user to lift 16 lbs. Head shields the sides of the magnet from attaching to unwanted ferrous surfaces. Telescopes from 9" to 34 1/4" (229mm to 870mm). Stainless steel handle is strong, lightweight and inhibits corrosion. Cushion textured pistol grip will not slip in wet or oily hands.

UPTM65K Magnetic Telescopic Pick-up Tool. Includes UPT65 Pick-up Tool and US225 Inspection Mirror in vinyl pouch.

US225 Round Mirror. Attaches to UPT65 Pick-up Tool. Dual ball adjustment provides infinite positioning. 2 1/4" (57.2mm) diameter.

Cutting Landscaping / Grounds Maintenance

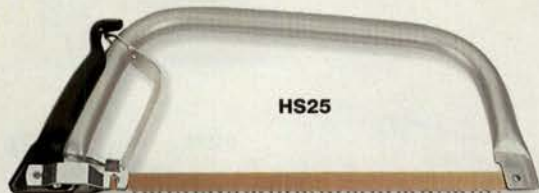
Professional Snap-on® landscaping/grounds maintenance tools are specially designed and manufactured for use by municipalities, golf courses, grounds maintenance departments, landscaping companies, parks departments and nurseries.

Pruning Saw

PRN95S Pruning Saw.

Intended for use on green wood. Fast pruning with minimal effort and maximum comfort. Blade teeth feature aggressive 45° cutting angle with a large gullet in the tooth line. Tapered 9" blade reduces friction and helps eliminate jamming on the pull stroke. Thermoplastic rubber handle provides superior strength and maximum comfort. Ergonomically designed to deliver a powerful stroke while reducing fatigue.

PRN95S-1 Replacement Blade.



Combination Saw

HS25 Mini Combination Saw. Can be used as hacksaw or bow saw. Small enough to fit in tool boxes. Ideal for plumbers and electricians. Easy to stow in car, boat, RV or backpack. Metal hand guard to prevent knuckle injuries. Blade protector for safety. Includes 12" (300mm) bi-metal hacksaw blade and wood cutting blade.

HS51TW Replacement Blade. Wood cutting blade for HS25 Bow Saw.



Hand Pruner

PRN8P Hand Pruner. Slicing cutting action requires minimal effort while reducing plant damage and blade wear. Blades made from high-quality carbon steel with precision ground edges. Blades can be locked in closed position. Slotted bolt keeps blades perfectly aligned when cutting. Handles are constructed from glass-fiber for superior strength. Strong rubber bumpers absorb shock. Smooth spring keeps blade in open position while providing minimal resistance to cutting action.

RKPRN8P Repair Kit. Includes spare blade, bolt, closing spring plus spring and buffer. Packaged in kit bag.

PRN8P-2 Counter Blade.



Hedge Shears

PRN26HS Hedge Shears. Use on most types of hedges, especially tightly packed varieties used for topiary and typical English gardens. Fully hardened, precisely ground blades provide a continuous clean cut. Serrated edge for cutting branches up to 0.6" (15mm) thick. Special stopper clip prevents nut and bolt from coming loose. Aerospace aluminum handles yield a strong, lightweight tool. Textured plastic grips for comfort and secure grip. Rubber buffers reduce shock and potential elbow injury.

RKPRN26HS Repair Kit. Includes complete bolt hardware and replacement buffers. Packaged in kit bag.

PRN75SFS



Folding Pruning Saw

PRN75SFS Folding Pruning Saw. Intended for use on dry or hard wood. Fast pruning with minimal effort and maximum comfort. Tooth pattern designed to clean material out of kerf. 7" Blade locks in both open and closed positions.

Thermoplastic rubber handle provides superior strength and maximum comfort.

PRN75SFS-1 Replacement Blade.



Folding Saw

YA1396 Folding Saw. General purpose folding saw for cutting wood, plastic and bone. Ideal for wild-life enthusiasts, hunters and campers. Two-component plastic handle for a firm grip with leather strap. Safety lock. Uses 8" (200mm) blade 7 TPI blade. Blade is specially coated for low friction and rust protection.

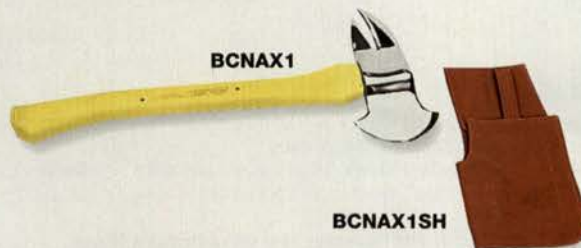


Lopper

PRN24BL Lopper. Slicing, scissors cutting action requires minimal effort for maximum effect. Deep hooked counter blade traps branches closer to the blade axis to provide better leverage. Fully hardened, precisely ground blades provide a continuous clean cut. Aerospace aluminum handles yield a strong, lightweight tool. Textured plastic grips for comfort and secure grip. Rubber buffers reduce shock and potential elbow injury.

RKPRN24BL Repair Kit. Includes spare blade, bolt, handle bolt and buffers. Packaged in kit bag.

PRN24BL-2 Replacement Blade.



Demolition Axe

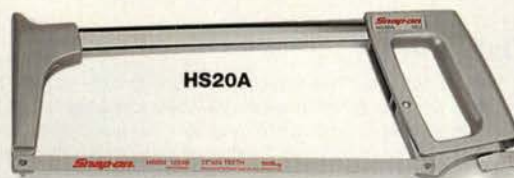
BCNAX1 Demolition Axe. Use as an axe, nail puller, prybar or lever for demolition, remodeling and structure gutting applications. Easily pierce and remove wall and ceiling materials, remove trim, windows, and door jams, remove and cut through roofing, siding, and metal sheeting. Head is manufactured of 1055 high carbon steel that is stress relieved and induction heat-treated to enhance long-term durability. Proprietary head to handle assembly uses a reverse tapered eyehole secured with an exclusive proprietary epoxy system. Rugged handle insulates against electrical shock. Fiberglass core handle with polypropylene jacket has a breaking strength of over 10,000 lbs. and a dielectric stability up to 100,000 volts.

BCNAX1SH Sheath. Optional sheath & belt for BCNAX1 Fireman's Axe. Made from fire retardant material. Features quick release function.

Hacksaws



HS18A



HS20A

HS18A Deluxe Hacksaw. Designed for 12" (300mm) blades. Blade storage inside the rectangular back section. Positions for normal flush cutting or 55° for angle or horizontal cutting. Blade tensioning device in handle. Built-in hand guard for protection. Includes HSBM1224B 12" Blade.

HS20A High-Tension Hacksaw. Designed for 12" (300mm) blades. Allows very high blade tension for accurate and exact kerfs. Spring tensioned blade loading mechanism, strong rectangular back section for blade storage with an easy-to-handle retaining screw. Positions for normal flush cutting or 55° for angle or horizontal cutting. Can be used as a compass saw. Includes HSBM1224B 12" Blade.

HS5A Mini-Hacksaw. Designed for 10" (250mm) blades. 8 1/4" frame fits in limited access areas. Easy to handle. Includes HSBM1024B 10" Blade.

HS7 Junior Frame Hacksaw. Designed for 6" (150mm) blades. Mini-hacksaw frame with solid steel profile. Chrome finish frame. Fiberglass handle provides comfortable grip. Simple blade tensioning screw. Includes HSB632B 6" Blade.

HS151 Junior Frame Hacksaw. Designed for 6" blades. 9 1/2" long. Blade included.

HSM632 Replacement Blade. 1/4" wide, 32-teeth-per-inch, 6" length. Package of 10.

HS5A



HS151



Hacksaw Blades

Manufactured of a shatter resistant bi-metal for a long life and fast, efficient cutting. Available in packages of 10 only.

Stock No.	Description	Length, inches	Teeth per inch
HSBM1214B	Bi-metal	12	14
HSBM1232B	Bi-metal	12	32
HSBM1024B	Bi-metal	10	24
HSBM1224B	Bi-metal	12	24
HSBM1018B	Bi-metal	10	18
HSBM1032B	Bi-metal	10	32
HSBM1218B	Bi-metal	12	18

Quick Cutter Hand Saws

Our "Quick Cutter" hand saw features our patented contoured screwdriver-type handle for a secure grip. The saw holder keeps a tight hold on any of the three included blades. A turn of the knurled knob and you can easily switch blades. All components are neatly packaged in C0417 Kit Bag.

HS50 Quick Cutter Hand Saw. Red handle. Includes the following blades:

HS14X1, HS18X1, HS24X1.

HS50BL Quick Cutter Hand Saw. Black handle. Includes the following blades:

HS14X1, HS18X1, HS24X1.

HS500 Quick Cutter Hand Saw. Orange handle. Includes the following blades:

HS14X1, HS18X1, HS24X1.

HS14X1 General Purpose Blade. For metal over 1/8", hard rubber, and fiber.

HS18X1 Fine Metal Cutting Blade. For metal 18 ga. to 1/8" nail-embedded wood.

HS24X1 Heavy Metal Cutting Blade. For metal 18 ga. and under, trim, tubing, plus galvanized pipe under 18 ga.

HS50

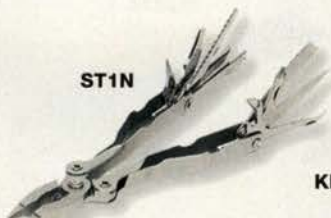


HS500



Scissors

ST1N



KERA100C



YA114



KER1120



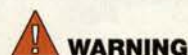
Folding Multi-Tools

ST1N Folding Multi-Tool. This sturdy stainless steel multi-tool offers 21 assorted functions. You get needle nose pliers, wire cutter and stripper, assorted files and screwdriver styles, measuring gauge, can opener, plus a host of other capabilities. Folds down from 7" fully opened to a compact 4 3/4".

KERA100C Multiple purpose tool. This multi-tool features a 3" drop point serrated blade, two-sided file (fine and coarse), replaceable hacksaw blade, can/bottle opener, slotted and PHILLIPS® screwdrivers, ruler, locking needle nose pliers with tension adjustment and wire cutters. Design features include thumb stud for one-handed blade opening, leaf spring lock for easy one-handed closing of knife blade, locking latch to hold tool in place for safe use and stainless steel handles.

YA114 Folding Scissors. High quality stainless steel. Handles pull apart and fold into cutting position. Compact: 3" long.

KER1120 Taskmaster Shears. High-carbon stainless steel blades are designed to hold their edge longer and sharpen quickly. Blades are permanently bonded to comfortable, non-slip handles. Overall length is 9" (23cm).



• Read additional safety precautions on pages M1 to M4.



See Warranty Information on inside front cover.

Cutting

Heavy Duty Knives

Soft molded rubber handles maximize hand grip, are easy to clean and are resistant to most solvents. Ideal for many automotive/industrial applications like cutting textiles, fascia, headliner, carpet, rubber, plastics and cardboard. Full length high-carbon steel blades are tempered for long lasting use. Re-sharpen periodically with water stone.

Stock No.	Description	Handle Color	Blade Length, inches	Overall Length, inches
PK61	Hook Blade	Red	3	8 1/4
PK62	Double Edge Blade	Red	3 5/8	8 3/16
PK63	Single Edge Blade	Red	4	9 1/8
PK610	Hook Blade	Orange	3	8 1/4
PK620	Double Edge Blade	Orange	3 5/8	8 3/16
PK630	Single Edge Blade	Orange	4	9 1/8
PK61G	Hook Blade	Green	3	8 1/4
PK62G	Double Edge Blade	Green	3 5/8	8 3/16
PK63G	Single Edge Blade	Green	4	9 1/8

PK600 Knife Set (Red). PK61, PK62 and PK63 (3 pcs) in a plastic pack.

PK600O Knife Set (Orange). PK610, PK620 and PK630 (3 pcs) in a plastic pack.

PK600G Knife Set (Green). PK61G, PK62G and PK63G (3 pcs) in a plastic pack.



Utility Knives

YA403A Mini Knife. One spare blade stores in handle. 3 1/8" long.

YA403A-1 Replacement blade for YA403A Utility Knife.

PK100 Retractable Blade Utility Knife. Quick release, spring loaded handle provides fast, sure blade changes. No tools are required. Integrated hinged handle means no handle parts to get lost. Rubber grip on handle for comfort and control. Red handle with black grip. Three blade positions: open, half-closed and closed. Includes PK100-1SP Blade Package.

PK100SB Self-Retracting Blade Utility Knife. Quick release, spring loaded handle provides fast, sure blade changes. Blade automatically retreats. Rubber grip on handle for comfort and control. Orange handle with black grip. Includes one (1) safety point, two-notch blade.

PK100-1 Two-Notch Replacement Blades. Use with PK100 and PK100SB Utility Knives. Pack of 5.

PK100-1SP Two-Notch, Safety Point Replacement Blades. Use with PK100 and PK100SB Utility Knives. Pack of 5.

YA1860 100 Two-Notch, Double-Pointed Utility Blades. Dispenser ejects blades one at a time. Blade guard in the ejector.

YA1850A 100 Three-Notch, Double-Pointed Utility Blades. Dispenser ejects blades one at a time. Blade guard in the ejector.

YA1800A 100 Blades in a Plastic Dispenser. Blades have aluminum backs that can be shaped for special applications.

PK100

PK100SB

YA403A



Multi Purpose Cutters

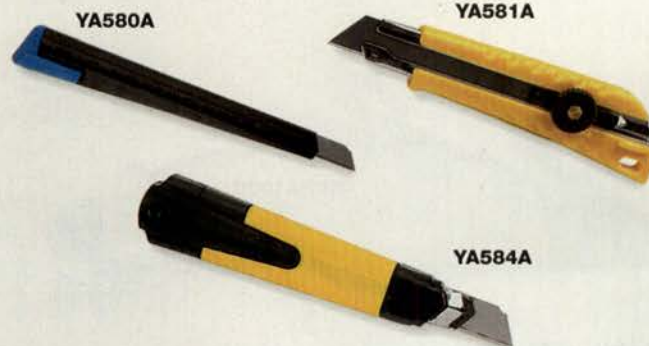
YA580A Multi Purpose Cutter. Features auto locking, fully retractable blade. All metal body is black with blue cap and pocket clip. Includes one (1) premium steel 13 pt. snap blade. Overall length of 5 3/8" (136.5mm). Uses YA580A-1 Replacement Blades.

YA580A-1 Snap off Replacement Blades. Pack of 5.

YA584A Multi Purpose Cutter. Features auto locking, fully retractable blade. Heavy duty construction with steel blade track. Comfortable cushion handle. High-viz yellow color. Use end cap to snap off dull segment of blade. Includes one (1) premium steel 13 point snap blade with two more blades stored in handle. Overall length of 5 1/2" (139.7mm). Uses YA580A-1 Replacement Blades.

YA581A Utility Knife. Has three blades with eight snap-off points. Minimum blade wobble. Ratchet wheel holds blade securely. Fully retractable.

YA581A-1 Replacement Blades. Pack of 10.



YA405A

PK125



Hobby Knife

YA405A Hobby Knife. 5 1/2" long aluminum handle with bottom knurl and knurled brass nose cap. Includes the following blades:

YA405-1 23° angle.

YA405-2 50° angle.

YA405-3 Curved edge.

YA405-4 Straight chisel edge.

PK125 Hobby/Utility Knife. Razor sharp and comfortable. Patented lightweight design will not roll off flat work surface. Blades easily and quickly replaced. Includes two (2) blades stored in handle. Overall length is 6" (152.4mm). Blade length is 1" (25.4mm).

Lock-Back Knives

Stock No.	Blade Length, inches	Closed Length, inches	Sheath
LB7	3 3/4	5	Yes
KER1060A	4	4 7/8	Yes
KER1660	3	4	No
KER1660ST	3	4	No
KER1600	1 15/16	2 7/8	No
KER1620RDSO	2 1/4	3 1/2	No
KER1550	3 1/4	4 1/2	No
TIM10413	3 1/2	4 1/2	No
TIM10411	3 1/2	4 1/2	No
TIM11233	2 15/16	4 1/16	No
TIM11231	2 15/16	4 1/16	No
TIM11293	3 15/16	5 1/16	No
TIM11291	3 15/16	5 1/16	No

KER1060A Black Horse II. Features blades of top quality 440A American steel, fine blanked and honed to a precision edge. Ergonomically designed handle, made of an advanced co-polymer, is finger-contoured to provide a sure grip.

KER1660 Leek. High quality 440A stainless steel blade. Bead-blasted 410 stainless steel handle. Removable/reversible pocket clip. Plain blade. Weighs 3.1 oz.

KER1660ST Leek. Same as KER1660 except blade is partially serrated.

KER1600 Chive. High quality 420HC stainless steel blade.

Bead-blasted 410 stainless steel handle. Removable pocket clip. Plain blade. Weighs 1.9 oz.

KER1620RDSO Scallion. High quality 420HC stainless steel ti-nitride blade. Durable 6061-T6 anodized red aluminum handle with Snap-on logo. Stainless steel liners. Safety tip lock. Removable pocket clip. Partially serrated blade. Weighs 2.3 oz.

Pocket Knives

340T OLD TIMER® Pocket Knife. Clip, spey, and sheepfoot blades. 3 5/16" long closed.



340T

GAT10004

GAT10005



GAT10003

GAT8T001



GAT80005



GAT60204



KER2535



GAT60016



Sharpening Kits

GAT10005 Professional Knife Sharpening System. System features special knife clamp/angle guide for six precise sharpening angles and secure knife clamping to insure the most efficient blade-to-stone contact. Includes extra coarse, coarse, medium and fine honing stones, specialty serrated knife blade sharpening stone, honing oil and custom case.

GAT10004 Diamond Hone Knife Sharpening System. Includes coarse, medium and fine honing monocrystalline diamond hones, honing oil and custom case. The special process of fusing diamonds to the metal substrate of the hones yields a sharpening instrument that will outperform any others. System features special knife clamp/angle guide for six precise sharpening angles and secure knife clamping to insure the most efficient blade-to-stone contact.

GAT10003 Premier Knife Sharpening System. System features special knife clamp/angle guide for six precise sharpening angles and secure knife clamping to insure the most efficient blade-to-stone contact. Includes coarse, medium and fine honing stones, honing oil and custom case.

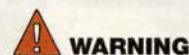
GAT8T001 Tri-Hone Knife Sharpening System. Premier three-stone sharpening system features a coarse silicon carbide stone for setting the bevel on dull or badly damaged blades, a 100% Natural Arkansas medium stone for sharpening, a 100% Arkansas fine stone for polishing to produce the ultimate razor sharpness and honing oil. All stones are mounted on a natural wood triangle which provides an elevated work surface for ease of use.

GAT80005 Stone Knife Sharpening System. Includes block mounted 5" Natural Arkansas stone for sharpening, 3" Natural Arkansas fine stone for final honing, honing oil and plastic storage case.

GAT60204 Pocket Knife Sharpener. The ultimate compact, lightweight sharpener for knives, fish hooks, darts and serrated edges. Special sharpener edge holds two rods and an angle guide to allow serrated blade sharpening at proper angle. Side-by-side rod feature promotes efficient sharpening of hooks, darts and other pointed instruments. High density alumina rods are removable for cleaning and repositioning. Measures 2.40" x 2.12" x .45".

KER2535 Blade Sharpener. Impregnated with 600 grit diamond coating bonded with nickel plating to a lightweight tube. Excellent sharpener for the repair of extremely dull blades. Length is 8.5" (20.3cm). Sheath length is 5.5" (12.7cm).

GAT60016 TRI-SEPS® Knife Sharpener. Triangular shaped, portable ceramic sharpener features built-in angle guide to quickly restore a razor edge to serrations, plain edges, entrenching tools, scissors, darts, fish hooks, ice picks and other pointed instruments. Includes bead chain and clasp. Made from premium-grade 96% alumina ceramic. Overall length is 4 1/2" (115mm).



WARNING

• Read additional safety precautions on pages M1 to M4.



See Warranty Information on inside front cover.

Scrapers / Putty Knives



Putty Knives / Scrapers

Features full length steel blades for strength and durability. Soft molded rubber handles maximize hand grip, are easy to clean and are resistant to most solvents. Broad hilt design helps protect against hand slipping when scraping.

Stock No.	Handle Color	Handle Length, inches	Blade Length, inches	Blade Width, inches	Blade Style	Edge
PK50	Red	4 7/8	3 1/2	2	Flexible	Straight
PK52	Red	4 7/8	3 19/32	1 1/4	Flexible	Straight
PK53	Red	4 7/8	3 19/32	1 1/4	Stiff Chisel	Single Bevel
PK500	Orange	4 7/8	3 1/2	2	Flexible	Straight
PK520	Orange	4 7/8	3 19/32	1 1/4	Flexible	Straight
PK530	Orange	4 7/8	3 19/32	1 1/4	Stiff Chisel	Single Bevel
PK50G	Green	4 7/8	3 1/2	2	Flexible	Straight
PK52G	Green	4 7/8	3 19/32	1 1/4	Flexible	Straight
PK53G	Green	4 7/8	3 19/32	1 1/4	Stiff Chisel	Single Bevel

PK500 Putty Knife/Scraper Set (Red). PK50, PK52 and PK53 in plastic tray.

PK5000 Putty Knife/Scraper Set (Orange). PK500, PK520 and PK530 in plastic tray.

PK500G Putty Knife/Scraper Set (Green). PK50G, PK52G and PK53G in plastic tray.

Wood Handle Putty Knife

Mirror-finished hardened steel blades extend through hardwood handles, solidly riveted for durability. Redwood handles have metal bolsters where handles meet blades.

Stock No.	Handle Material	Handle Length, inches	Blade Width, inches	Blade Style	Edge
PK23A	Maple	3 7/8	1 1/2	Heavy Chisel	Single Bevel



Brass Putty Knives / Scrapers

Spring tempered, solid brass blades are non-marring, non-sparking, non-magnetic and non-corrosive. Soft molded rubber handles maximize hand grip, are easy to clean and are resistant to most solvents. Broad hilt design helps protect against hand slipping when scraping.

Stock No.	Handle Color	Handle Length, inches	Blade Length, inches	Blade Width, inches	Blade Style	Edge
PKB50	Red	4 7/8	3 1/2	2	Stiff	Straight
PKB52	Red	4 7/8	3 19/32	1 1/4	Stiff	Straight
PKB53	Red	4 7/8	3 19/32	1 1/4	Stiff	Single Bevel

PKB500 Putty Knife/Scraper Set (Red). Set includes PKB50 and PKB52 Putty Knives plus PKB53 Chisel/Scraper.

Knife Blade Scrapers

Remove gaskets, sealers and other caked-on materials. Blade edge designed to work effectively in both push and pull directions. Stainless steel blades for durability. Polished blades cleanup easily. Comfortable composite handles feature a contour thumbstop for maximum control and a wide hilt for control. Handles are black with red accent and Blue-Point® logo.

Stock No.	Blade Style	Blade Length, inches	Length, inches
US710	Spoon	3 3/8	8
US711	Chisel Tip	2 1/2	7 1/8
US712	Oyster	2 1/8	6 3/4

USS103 Scraper Set. Includes US710, US711 and US712 in black pouch.



Interchangeable Blade Scrapers

Applications include gasket removal, cylinder head cleaning, paint and rust removal, glue removal from woodworking projects plus putty and caulk removal from windows, glass and plumbing fixtures. Quick release lever locking handle provides fast blade changes. Balanced ergonomic handle features nail tapping heel plate. Resists heat and most chemicals.

PK90 Includes PK91 thru PK99 Blades (8 pcs) in vinyl storage pouch. Includes (2) PK94 Brass Blades. Does not include optional PK95 Convex Blade.

PK91 Lever locking blade handle.

PK92 Flat Blade. Stainless Steel.

PK93 Large Channel Blade. Stainless Steel.

PK94 Medium Blade. Brass.

PK95 Convex Blade. Stainless Steel.

PK96 Small Channel Blade. Stainless Steel.

PK97 Pointed Channel Blade. Stainless Steel.

PK98 Crescent Blade. Stainless Steel.

PK99 Diamond Blade. Stainless Steel.



Scrapers

CS1 Flexible Wire Carbon Scraper. The ten blades are made of oil-tempered spring steel and firmly secured to the handle. A sliding ferrule is used to adjust to the required flexibility.

PK70 Multi Purpose Scraper. Use for gasket removal, deburring, car body work and rust removal. Tungsten carbide blades are 2.5 times harder and up to 50 times more durable than hardened steel. Ergonomic handle reduces fatigue. Thumbgrip allows precision scraping.

PK70TRI Triangular Replacement Blade. For PK70.

PK70ROUND Round Replacement Blade. For PK70.

PK70DROP Drop-shaped Replacement Blade. For PK70.

PK70PEAR Pear-shaped Replacement Blade. For PK70.

MS400 Razor Blade. Removes stickers, molding paint and decals. Use with standard, single edge steel or plastic razor blades. Quick and easy blade changes. Angled head provides maximum leverage. 4" (101.6mm) long.

MS800 Razor Blade. Same as MS400 except 8" (203.2mm) long.

MS1300 Razor Blade. Same as MS400 except 13" (330.2mm) long.

MS3000 Scraper Set. Includes MS400, MS800, and MS1300 in plastic storage case.

PKRS1 Razor Scraper. Features three blade positions: Closed (for safety during storage and transport), Open (holds blade securely when working) and Loading (permits quick and easy blade change). Rubberized contour grip provides comfort and a sure gripping service. Uses YA1800 Replacement Blades.

Scrapers

Rigid Carbon Scrapers

1/4" square shanks are flared to form scraping edge. Screwdriver-type handle.

Stock No.	Handle Color	Length, inches	Blade Width, inches	Blade Style
CSA8C	Black	7 5/8	7/8	Straight
CSA8CO	Orange	7 5/8	7/8	Straight
CSA8CR	Red	7 5/8	7/8	Straight
CSA9C	Black	12 7/8	1 1/4	Straight
CSA9CO	Orange	12 7/8	1 1/4	Straight
CSA10C	Black	12 7/8	1 1/2	Straight
CSA10CO	Orange	12 7/8	1 1/2	Straight
CSA12C	Black	12 7/8	1	Straight
CSA12CO	Orange	12 7/8	1	Straight
CSA12CR	Red	12 7/8	1	Straight
CSA14C	Black	14	1 1/2	Straight
CSA14CO	Orange	14	1 1/2	Straight
CSA14CR	Red	14	1 1/2	Straight
CSB10C	Black	12 7/8	1/2	45° Angle
CSB12C	Black	12 7/8	7/8	45° Angle

CSA400B Rigid Carbon Scraper Set (Black). CSA8C, CSA9C, CSA10C and CSA12C (4 pcs) in a plastic tray.

CSA300A Rigid Carbon Scraper Set (Black). CSA8C, CSA12C and CSA14C (3 pcs.) in a plastic tray.

CSA300AO Rigid Carbon Scraper Set (Orange). CSA8CO, CSA12CO and CSA14CO (3 pcs.) in a plastic tray.

CSA300AR Rigid Carbon Scraper Set (Red). CSA8CR, CSA12CR and CSA14CR (3 pcs) in a plastic tray.



Awls, Hooks, and Picks



Picks

YA145 Pick Set. Includes a knurled handle and four screw-in picks with different hook configurations. Comes in a clear plastic pouch.

YA145-1 Straight tip.

YA145-2 O-ring 90° tip.

YA145-3 Hook tip.

YA145-4 Angle tip.

YA149 Pick and Probe Set. Includes five 5 1/2" single-ended and two 7" double-ended probes made of tempered stainless steel.

YA149-1 Straight pointed.

YA149-2 Curved with 90° point.

YA149-3 45° with flat tip.

YA149-4 90° pointed.

YA149-5 Double-ended short.

YA149-6 Double-ended long curve.

YA149-7 Half circle pointed.

Picks / Extra Long

Use these picks to separate wires, remove small fuses and O-rings, retrieve washers and loose parts too small to pick up with fingers or to mark metal or plastic surfaces. Heavy duty shank diameter is 0.02" thicker than standard picks for added durability and extended tool life. Extra length provides access to hard-to-reach areas. Textured cushion handle provides a sure grip, even with greasy hands. Four different styles provide the right tool for the right job. Each pick is 9 3/4" (247.7mm) long.

PSLR4 Hook and Pick Set. Includes PSLR4-1 thru PSLR4-4 (4 pcs) in vinyl storage pouch.

PSLR4-1 Hook Pick.

PSLR4-2 90° Hook Pick.

PSLR4-3 Straight Pick.

PSLR4-4 Complex Pick.



Picks and Scribes

Nickel-plated steel tips. Knurled aluminum mid-section for a firm hold of the tool.

YA338 One end is straight; the other is hooked for picking O-rings and small parts.

YA339 One end is straight; the other has a 90° angle for detail work around small objects.

YA1466 Pick and Probe Set. Includes YA1466-1 thru YA1466-5. Tips store in handle. Magnet tip has 3 lb. lifting capacity. Brass quick coupler for rapid change of tips. Steel tips feature black oxide finish. Knurled handle for secure grip. Tip length is 3" (76mm). Overall length of tool is 8" (203mm) with tip attached to handle.

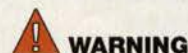
YA1466-1 Straight tip.

YA1466-2 90° Angle Tip

YA1466-3 45° Angle Tip

YA1466-4 Mini-Hook Tip

YA1466-5 Mini-Magnet Tip



WARNING

• Read additional safety precautions on pages M1 to M4.



Awls, Hooks, and Picks



Awls and Hooks / Soft Grip

Use for scribing, alignment, O-ring removal, piercing holes in leather or fabric and cleaning nooks and crannies. Full size, cushioned, soft grip handles provide increased comfort and control while resisting most shop solvents. Contour thumb stop helps user apply maximum pressure. Special alloy steel results in superior strength and toughness.

Description	Blade Length, inches	Overall Length, inches	Red Handle Stock No.	Orange Handle Stock No.	Green Handle Stock No.
Awl	3 3/4	8	SG4ASA	SG4ASAO	SG4ASAG
Hook Tool	3 3/4	8	SG4ASH	SG4ASHO	SG4ASHG
Awl	4 3/4	9 5/8	SG5ASA	SG5ASAO	SG5ASAG
Awl	5 3/4	10 5/8	SG7ASA	SG7ASAO	SG7ASAG
Complete Set			SGASA104	SGASA104O	SGASA104G



SGASA204



Miniature Awls, Hooks and Picks / Soft Grip

Use for scribing, alignment, O-ring removal, piercing holes in leather or fabric and cleaning nooks and crannies. Soft grip handles provide increased comfort and control while resisting most shop solvents. Sets packaged in plastic pouch.

Description	Blade Length, inches	Overall Length, inches	Red Handle Stock No.	Orange Handle Stock No.	Green Handle Stock No.
Mini-Awl	3 1/8	6	SG3ASA	SG3ASAO	SG3ASAG
Mini-Awl	3 1/8	6	SG3ASH	SG3ASHO	SG3ASHG
Mini-Awl	3 1/8	6	SG3ASH45	SG3ASH45O	SG3ASH45G
Mini-Hook	3 1/8a	6	SG3ASH90	SG3ASH90O	SG3ASH90G
Complete Set			SGASA204	SGASA204O	SGASA204G



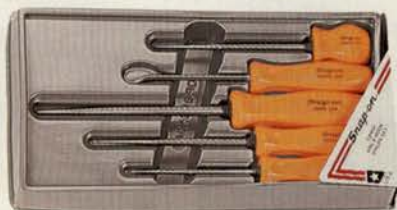
Miniature Awls, Hooks, and Picks / Plastic Handle

Screwdriver-type handles. Each set is packaged in a plastic pouch.

Description	Blade Length, inches	Overall Length, inches	Orange Handle Stock No.	Black Handle Stock No.
Hook Tool	3 1/8	5 7/8	3ASAAO	3ASAA
45° Bent Tip Tool	3 1/8	5 7/8	3ASHAO	3ASHA
90° Bent Tip Tool	3 1/8	5 7/8	3ASH45AO	3ASH45A
Miniature Pick Set	3 1/8	5 7/8	3ASH90AO	3ASH90A
Complete Set			ASA204AO	ASA204A



ASA105AO



Awls and Hooks / Plastic Handle

Screwdriver-type handles. Each set is packaged in a plastic tray.

Description	Blade Length, inches	Overall Length, inches	Orange Handle Stock No.
Awl	3 3/4	7	4ASAAO
Hook Tool	3 3/4	7	4ASHAO
Awl	4 3/4	8 1/2	5ASAAO
Stubby Awl	4 3/4	6 1/2	6ASAAO
Awl	5 3/4	10	7ASAAO
Complete Set			ASA105AO

Creepers

Lift Back Creepers

JC56 Heavy Duty Adjustable Back Creeper. Features 1" steel tube frame for extra strength in heavy duty applications. Unique drop rail design allows greater shoulder and arm clearance. 1" thick padding on bed; 2" thick padding on headrest. Pneumatic back is infinitely adjustable from 0 to 60° with the simple movement of a lever. Four 3 1/2" casters provide 800 lb. capacity. Leaf spring shock absorbers on the casters inhibit caster loosening due to dropping or usage over rough areas. Zinc-plated caster hoods protect clothing. 13" x 38" padding, 40" overall length. 6 1/8" clearance. Red padded cover.

JC50C Adjustable Back Creeper. Pneumatically adjusts to any position to provide support to head and neck during long periods of work. The drop rail design increases shoulder and arm clearance. Shock absorbing caster mount lengthens caster life and provides a smoother ride. 2-1/2" casters are impervious to most oil and chemicals. Features a fully upholstered pad with a custom fitted seat pad. Red pad, black powder-coat frame. Overall length of 40".



JC56



JC50C

Padded Creepers

Low profile design rests 2" from the ground. Unique drop rail design allows greater shoulder and arm clearance. 16 ga., 3/4" square steel stock frame. Plywood base is covered with 1" thick foam padding on the bed and 2" thick foam padding on the headrest. Beds are 11 1/2" wide. Shock absorbing caster mount lengthens caster life and provides a smoother ride. 17" wide, 40" long. Headrest adjusts to any of four comfortable positions for maximum head and shoulder support.

JC23C Padded Low-Profile Creeper. Red cover.

JC23CO Padded Low-Profile Creeper. Orange cover.

JC23CBL Padded Low-Profile Creeper. Black cover.

JC23BOD Padded Low-Profile Creeper. Olive Drab cover.

JC28A Padded Low-Profile Creeper. Low profile design for ease of use. 16 ga., 3/4" square steel stock frame. Padded base enhances comfort for user. Beds are 11 1/2" wide. 4 casters. 36" long.



JC23C



JC23CBL



JC23CO



JC28A

Adjustable Padded Creepers

Low profile design rests 2" from the ground. Unique drop rail design allows greater shoulder and arm clearance. Adjustable pneumatic headrest for maximum head comfort and shoulder support. 16 ga., 3/4" square steel stock frame. Plywood base is covered with 1" thick foam padding on the bed and 2" thick foam padding on the headrest. Beds are 11 1/2" wide. Six 2-1/2" diameter caster-style wheels. 17" wide, 40" long.

JC26C Adjustable Padded Low-Profile Creeper. Red cover.

JC26CO Adjustable Padded Low-Profile Creeper. Orange cover.

JC26CBL Adjustable Padded Low-Profile Creeper. Black cover.

JC26CBL



JC26C



JC26CO



JC45BO



JC45B



JC45BBL

Heavy Duty Creepers

Features 1" steel tube frame for extra strength in heavy duty applications. Unique drop rail design allows greater shoulder and arm clearance. 1" thick padding on bed; 2" thick padding on headrest. Four 3 1/2" casters provide 800 lb. capacity. Leaf spring shock absorbers on the casters inhibit caster loosening due to dropping or usage over rough areas. Zinc-plated caster hoods protect clothing. 13" x 38" padding, 40" overall length. 5 1/4" clearance.

JC45B Heavy Duty Padded Creeper. Red cover.

JC45BO Heavy Duty Padded Creeper. Orange cover.

JC45BBL Heavy Duty Padded Creeper. Black cover.

Heavy Duty Adjustable Creepers

Same fine features as the JC45B Series plus adjustable pneumatic headrest for maximum head comfort and support. Unique Patent Pending shock absorbing caster mount lengthens caster life.

JC46A Heavy Duty Padded Adjustable Creeper. Red cover.

JC46AO Heavy Duty Padded Adjustable Creeper. Orange cover.

JC46ABL Heavy Duty Padded Adjustable Creeper. Black cover.



JC46A



JC46AO



JC46ABL

Folding Creeper

Folding capability allows you to easily stow in service vehicles or large tool storage drawers with minimum of 5" drawer depth. Folds to approximately 20". 16 gauge, 3/4" square steel stock frame. Low profile design rests 2" from the ground. Plywood base covered with 1" foam padding (2" thick on the headrest). 40" long overall with bed width of 11 1/2". Hooded casters.

JCF23 Folding Creeper. Red padding with black frame.



JCF23

Creepers / Covers



Seat Creepers

JC24B Seat Creeper (Red). 1/2" plywood base is topped with comfortable 1 1/2" thick foam padding. Complete with molded tool drawer beneath the seat. Seat measures 10" wide x 14" long. 16 ga., 1" square steel stock frame. Hooded casters shield the user's clothing from dirt and oil and from getting caught in the casters.

JC24BO Seat Creeper (Orange).

JC24BBL Seat Creeper (Black).

JCHP30A Adjustable 360° Swivel Seat Creeper. Features swivel seat with pneumatic height adjustment. Height adjusts from 17" to 22". Seat swivels a full 360°. Large 18" x 18" storage tray. 2 1/2" hooded swivel casters.

JCH40C Adjustable Swivel Seat Creeper. Pneumatic seat height adjustment from 14" to 19". Features swivel seat with thick, 12" diameter seat cushion, 2 1/2" diameter swivel casters plus a large 18" x 18" storage tray.

Wood Creepers

JCW3C Standard Creeper. Plywood base with natural finish for a lightweight unit with maximum strength. Wooden bed resists welding spark burn. Padded headrest. Heavy duty side support rails. Four 2" hooded swivel casters. Measures 17 1/4" x 36" x 5".

JC25A 4 Position Adjustable Creeper. Features an adjustable, tilting headrest for maximum head, neck and shoulder comfort. Zinc-plated caster hoods shield clothing from dirt and oil. Wooden bed resists welding spark burn. Drop shoulder design for added comfort. 2 1/2" casters, 36" overall length.

JCH30B High-Back Seat Creeper (Black). Ideal for brake and body work. Seat, tray and frame are black. High-back, padded seat for extra comfort. Logo embossed in seat back. Large 11 1/4" x 12 1/2" storage tray. 2 1/2" diameter hooded swivel casters. Extended wheelbase for extra stability.

JCH30BR High-Back Seat Creeper (Black).

JCH29 High-Back Seat Creeper (Black). Ideal for brake, body or wheel work. High-back, 18" wide padded seat for extra comfort. Seat is 7" from the floor. Large 6" x 12" storage tray behind seat. Seat, tray and frame are black. Logo embossed in seat back. 2 1/2" diameter hooded swivel casters.

ECU914PK



Creeper Lights

ECU914PK Rechargeable Creeper Light. Lamp cradle easily mounts on and will move with headrest. Illuminates a large area overhead while keeping hands free. Lamp is easily removed from its cradle for applications away from the creeper. Lamp will stand upright utilizing the battery pack (not included) as a base or lamp can be hung from a 360° swiveling, folding hook. Heavy duty lamp is constructed from industrial grade aerospace plastic designed to resist shock. Lens is an ultra clear polycarbonate. Bright 27 watt fluorescent bulb (replacement: ECU47271) has an 10,000 hour life. Use only with Snap-on® CTB Series Batteries (CTB100, CTB312, CTB314, CTB318) and CTC Series Chargers (CTC318, CTC328). Both battery and charger must be purchased separately. CE Conformity. UL Listed in USA and Canada.

Creeper Hangers

Secures creepers to roll cabs. Hanger hooks over lip of roll cab and screws down. Adjustable to four different creeper widths. Two hook bolts and a lock rod are included so creeper can be padlocked. (Padlock not included.) U.S. Patent 5,407,170 applies. 16 13/16" length.

KRJC23 Creeper Hanger (Red).

KRJC23PER Creeper Hanger (Yellow).

KRJC23PB Creeper Hanger (Black).

KRJC23PL Creeper Hanger (Cranberry).

KRJC23PCN Creeper Hanger (Royal Blue).



Fender Covers

High density sponge rubber laminated to vinyl provides better protection and adherence to the fender. Less susceptible to creasing. Raised ribbing along center section provides useful tool holding space and easy access to tools.

CKS6A Fender Cover with Tool Pockets (Red). Measures 21" wide by 30" long. Tool pockets keep tools handy

CKS7A Fender Cover (Red). Measures 22.5" wide by 30" long for use on vehicles with broad fenders.

CK7D Fender Cover (Red). Measures 26" wide by 36" long (660.4mm x 914.4 mm) for use on shorter fenders of most new vehicles.

CK7DBL Fender Cover (Black). Measures 26" wide by 36" long (660.4mm x 914.4 mm) for use on shorter fenders of most new vehicles.

Seat Covers

SEATCOVER1 Seat Cover. Made from 100% nylon with special stain protection impregnated in cloth. Resistant to grease and water. Will not tear when used over high headrests. Black with red trim and red Snap-on logo.

CK15D Vinyl Seat Cover (Red). Heavy-duty vinyl material protects both seat and head rest. Measures 30" x 52" (762mm x 1320mm). Fits front seats of most vehicles.

CKM3020 Multi-Purpose Mat. Durable multi-purpose nylon mat offers paint and surface protection plus personal comfort. Can be used as fender cover, seat cover, floor mat or kneeling mat. Nylon front allows ease of movement when used as a seat cover. Webbed foam backing keeps mat from sliding on fender or seat back and provides a cushion when used as a kneeling mat. Large 31" x 18" size. Machine washable.

Covers

Flashlights (Non-Rechargeable) Lighting

Xenon/LED (Light Emitting Diode)

ECFB700 Aluminum Lithium Xenon Flashlight. Powerful lithium batteries combined with a super bright Xenon bulb produces a high-intensity beam that is 10 times brighter than a standard 2AA flashlight. Constructed from machined aircraft-grade aluminum with a durable anodized finish. Features include push-button ON/OFF tail switch, spot-to-flood adjustable beam, rubber sleeves on head and barrel for maximum grip plus shock and water resistance. Compact bat only 5.5" (139.7mm) long. Powered by (2) 123A 3-volt lithium batteries (included). Weighs 0.38 lbs. (0.17 kg). Uses T-13/4 Xenon bi-pin replacement bulb.

ECFB900 Miniature LED Flashlight. LED (Light Emitting Diode) technology provides up to 20 times longer battery life than conventional 2AA flashlights. Unique lens & reflector for maximum brightness. Push button ON/OFF switch with silent signal feature. Constructed of tough, ABS plastic with rubber grip. LED, unlike a bulb, never needs replacing. Water resistant. Two AA cells included.

ECF950 LED White Beam Flashlight. Five ultra-bright LED lamps have a 11,000+ hour life. Beam projects over 120' (36 meters) and is visible from over 2 miles (3.2 kilometers). Powerful lithium batteries provide more than 20 hours of burn time. Three-way switch (ON, Signal button, or OFF) for greater versatility. Precision machined aircraft aluminum is finished with military grade type 3 hard coat anodizing. Crush resistant to 2,000+ lbs. (900 kg). Water resistant to 150' (45 meters). Operating range is -40°F to 122°F (-40°C to +50°C). Compact size is only 0.88" dia. x 4.75" long (22.2 x 120.7mm). Features include 3/16" (4.7mm) lanyard hole and Snap-on logo etched on barrel. White beam.

ECFB900



ECFB900



ECF950BL LED Blue Beam Flashlight. Same as ECF950 except with blue beam.

ECFLEDHEAD LED Headlight. For applications requiring hands-free lighting. Light fits comfortable over user's head. ON/OFF switch located on light head. Bright LED's never need replacing. 50 to 60 hours continuous runtime on one set of batteries. Uses (2) AA alkaline batteries.

ECFB975 LED Standard Flashlight. Switches from 2 LED operation to 4 LED operation with simple rotation of flashlight head. Provides up to 100,000 hours (more than 11 years) of continuous use with change of batteries. LED's never need replacing. Push-button ON/OFF switch has silent signal feature. Comfort handle constructed of tough ABS plastic with rubber grip has 1 1/2" diameter. Water and shock resistant. 10" long. Uses (2) D alkaline batteries.

ECF300A



ECF50



ECF100A



ECFB300



ECFB100



Police Flashlights

ECF200A Two D Cells. Similar to illustrated ECF300A. Machined aluminum with a red, anodized finish. Beam is adjustable. Rubber sleeves on head and barrel offer maximum grip protection. Water resistant, o-ring sealed throughout. 10" long. Uses ECF200A4 Standard Base Krypton Bulb.

ECF300A Three D Cells. Machined aluminum with a red, anodized finish. Beam is adjustable. Rubber sleeves on head and barrel offer maximum grip and unit protection. Water resistant, o-ring sealed throughout. 12 1/2" long. Uses ECF300A4 Krypton Bulb.

ECF50 Miniature, Two AAA Cells. Aircraft aluminum housings, adjustable focus, water resistant. Push-button on/off switches operate without changing focus. Rubber sleeves on heads and barrels. 3 7/8" long. Uses ECF100A13 Bi-Pin Krypton Bulb. Batteries not included.

ECF100A Miniature, Two AA Cells. Aircraft aluminum housings, adjustable focus. Push-button on/off switches operate without changing focus. Rubber sleeves on heads and barrels. 6 1/4" long. Uses ECF100A13 Bi-pin Krypton Bulb. Batteries not included.

ECFB300 Convertible, Three D Cells. Machined aluminum with black anodized finish. Adjustable beam provides spot or flood lighting. Shock and water resistant. Knurled head and handle for grip. 12 1/2" in length. Krypton bulb. Can be upgraded to a rechargeable light with ECF480A1 Flashlight Recharging System.

ECFB100 Two AA Cells (not included). Machined aluminum with black anodized finish. Adjustable beam provides spot or flood lighting. Shock and water resistant. Knurled head and handle for grip. 5 7/8" in length. Uses ECF100A13 Bi-pin Krypton Bulb.

ECF1B



ECF3B



ECF7B



ECF35



Heavy Duty Flashlights

ECF1B Two D Cells. Made of high-impact plastic. Features battery decks to isolate batteries from the bulb, metal reflectors with a channel gasket that waterproofs the lens cap, and lens. Includes a spare bulb, holder, and ring hanger.

ECF3B Three D Cells.

ECF7B Right Angle Flashlight, Two D Cells. Made of high-impact plastic. Features battery decks to isolate batteries from the bulb, metal reflectors with a channel gasket that waterproofs the lens cap, and lens. Waterproof flashlights (except ECF6B) include a spare bulb, holder, and ring hanger. Includes belt clip.

ECF35 Explosion Proof Flashlight, Two D Cells. Made of high-impact plastic. Features battery decks to isolate batteries from the bulb, metal reflectors with a channel gasket that waterproofs the lens cap, and lens. Waterproof flashlights (except ECF6B) include a spare bulb, holder, and ring hanger. UL Listed and Bureau of Mines approved. Meets applicable U.S. Fed. and Mil. Specs. MX-992/U, Type II, Style 1, except color.



WARNING



- Do not remove or bypass the grounding prong on any electrical plug.
- Read additional safety precautions on pages M1 to M4.

Lighting Flashlights / Lanterns (Non-Rechargeable)



ECF101

Swivel Head Flashlights

ECF101 Rotating Head Flashlight. A compact 6 1/2" long flashlight featuring a swivel head for access. The head can be positioned up to 90° parallel to the handle. Krypton Bulb, tough lexan lens, and pocket clip. Uses two AA batteries (not included).

ECF1011 Krypton Replacement Bulb.

ECF1012 Magnetic Holder

ECF1013 Belt Holster.

ECF23A



Penlights

ECF23A Plastic Barrel Penlight. Made of tough plastic:

Switch activated by depressing pocket clip. Red barrel with Snap-on logo.

Uses two "AA" cells (batteries not included).

EYELIGHTS1



Eyelights

EYELIGHTS1. Lights on each side of these lightweight glasses allow your hands to be free while you work. Unfold glasses and light goes on; fold and light goes off.



ECFL100

Lanterns

ECFL100 Hand Held Lantern. Features include high-impact weatherproof case & seals, shock resistant lens shield, watertight rotary switch, powerful Krypton bulb and multi-position swivel stand. Star reflector boosts brightness by 50%. Batteries (not included): Four "D" cells or NEDA #509 spring terminal battery.



ECFH1

Flashlight Holders

ECFH1 Flashlight Holder. Magnetic base offers secure hold. Ball joint permits 360° rotation and pivots 70°. Light beam of inserted flashlight is easily directed and once positioned remains in place.

ECFH2 Flashlight Holder. Magnetic base offers secure hold. Ball joint permits 360° rotation and pivots 70°. Light beam of inserted flashlight is easily directed and once positioned remains in place.

Flashlights / Lanterns (Rechargeable)



CTL918



ECFCT912



ETBSLF3600



ECF480A



ETL700

Rechargeable Flashlights

CTL918 VERSAVOLT® Xenon® Rechargeable Flashlight. Operates on Snap-on® CTB Series 9.6V, 12V, 14.4V and 18V Battery Packs. 120° swivel head with detent every 10° for maximum flexibility. Adjustable strap with removable stainless steel hook. Clip inside lamp holds spare bulb. Housing resists impact, temperature and most automotive fluids. Tempered glass lens resists scratches. Bright 11W Xenon bulb (Phillips HPX60, 7.2V, 0.85 amp). Measures 11 1/4" x 3 7/16" x 3 1/4". Does not include battery pack or charger. UL Listed. CE Conformity.

Battery Chargers: CTC328 (12V), CTC318 (U.S.), CTCFA318 (Australia), CTCFE318 (Europe), CTCJ318 (Japan), CTCFU318 (U.K.).

ECFCT912 Flexible Rechargeable Flashlight. Operates on Snap-on® CTB Series 9.6V, 12V, 14.4V and 18V Battery Packs. Flexible neck for versatile positioning. Head locks in place on base for use as a lantern. Includes Xenon 9.6V/12V bulb (ECFCT91212 and 14.4V bulb (ECFCT91214). Does not include optional Xenon 18V bulb (ECFCT91218). Does not include battery pack or charger.

ETBSLF3600 Rechargeable Flashlight (3.6V). Single charge lasts for two hours. Krypton bulb for maximum brightness. Ergonomic contoured handle. Blue housing with blue trim. Weight is .44 lbs. (0.20 kgs). Uses ETBSLF3600A battery pack and ETBSLF3600A Charger (not included).

ECF480A Rechargeable Flashlight. Black aluminum rechargeable flashlight comes with a 120V AC adaptor and a 12VDC adaptor. Uses a halogen lamp and polycarbonate lens. Projects high or low beam. Same type of flashlight as used by law enforcement agencies. Includes one battery stick of five 1/2 D cell NiCad batteries.

ECF480A1 Flashlight Recharging System. Designed for recharging ECF480A flashlight. Does not include flashlight.

ECF480A2 Battery Disc. Five (5) NiCad 1/2 D Cell Battery Stick.

ECF480A3 Halogen Bulb. Replacement bulb.

ECF480A4 120VAC Transformer.

ECF480A5 Flashlight Holder Assembly.

ECF480A6 Switch Assembly.

ECFDC12 12VDC Adaptor.

ETL700 Rechargeable Flashlight (7.2V). Features red and clear lenses, swivel head and three-position switch (on, off, and blinking). Does not include battery or charger.

ETB700 7.2V NiCad Battery Pack. 1 hr. charge time, 500 cycles.

ETC700 Battery Charger. 120VAC, 50/60 Hz.

Rechargeable Lanterns and Spotlights

ECFS500 Rechargeable Lantern. Powerful halogen bulb generates 500,000 candle power. Powered by 6V lead-acid battery. Includes 120VAC plug-in charger and auto cigarette lighter (12VDC) adaptor cord. Light lasts about 1/2 hour of continuous use on a full charge.

ECFL500 Rechargeable Lantern. Features a powerful halogen bulb that generates 500,000 candle power and rechargeable 6V 4AH lead acid battery in a convenient lantern style case. Includes 6V rechargeable battery, DC and 120VAC adaptors. Light lasts about 1/2 hour of continuous use on a full charge.

CTL3918 VERSAVOLT® Rechargeable Spotlight. Features a powerful 55-watt halogen bulb that generates 1,000,000 candle power. Current draw is 8.5 amps (High setting) and 3.5 amps (Low setting). Run Time (on High setting) is 31 minutes (18V batt.), 23 minutes (14.4V batt), 20 minutes (12V batt.) and 10 minutes (9.6V batt.). Spotlight weight with 18V battery is 4.3 lbs.

ECFS500



ECFL500



CTL3918



Unless otherwise indicated, all lights and cords operate on 120 VAC only.

Extension Lights

Extension Lights

ECB4430 Extension Light. 120VAC. Hanging hook swivels 360°. Cage has flat spot to prevent rolling. Grounded outlet in handle. Use up to a 75W bulb. 25', 16 gauge, 3-conductor, Type SJT vinyl cord. UL Listed.

EC134B Extension Light. Zinc plated battery clips allow operation with 12V power supply. Includes rubber handle with on/off switch. Metal guard plus hanging hook. Includes EC134A1 50W, 12VDC bulb. 20' coiled cord.

ECU134A1. Replacement bulb for EC134B.



Note: Unless otherwise indicated, all lights and cords operate on 120 VAC only.

Extension Cords

Cord stays flexible in extreme temperatures from -58° to 221°F (-50° to 105°C). Excellent resistance to oil, water and abrasion. All cords have 3-conductor grounded plug. UL Listed.

EC267B Extension Cord. Black. 25' cord. 16-ga, type SJEOW.

EC268B Extension Cord. Black. 50' cord. 16-ga, type SJEOW.

EC826B Power Block Cord. Insulation resists oil, grease, acids, solvents and abrasion. Retains flexibility under extreme conditions (-58° to 221°F, -50° to 105°C). Three (3) grounded outlets on 50-foot, SJOEW-A 12-gauge cord. Grounded plug. UL Listed. Black.



Multi-Outlet Strips and Reels

EC6B Mini Outlet Strip. Six grounded outlets with lighted on/off switch and 15 amp circuit breaker. 14' cord.

Mount on workbench or tool box. 14-ga., 3-conductor cord. Black.

ECR4300A Multi-Outlet Cord Reel. (120VAC) Cord flexible to -58°. Case is shatter resistant ABS plastic. 180° swivel action plus adjustable stop ball. 16/3 SJEOW 3-conductor cord with three grounded outlets. Circuit breaker. Power cord is 2' long; extension cord is 50' long. Mounting hardware included.

ECRB4300 Multi-Outlet Cord Reel. (120VAC) Oil and water resistant cord. Case is shatter resistant ABS plastic. 180° swivel action plus adjustable stop ball. 16/3 SJEOW 3-conductor cord with three grounded outlets. Circuit breaker. Power cord is 2' long; extension cord is 30' long. Mounting hardware included.

Flexible Lights / Magnifiers



Flexible Lights

GA481B Inspection Light. Two D cells. Meets U.S. Fed. and Mil. Specs. MX6736/U, Type V, Style 1.2. Made of high-impact plastic. Features battery decks to isolate batteries from the bulb, metal reflectors with a channel gasket that water-proofs the lens cap, and lens. Includes a spare bulb, holder, and ring hanger.

ECF24 Bendable Light. ECF24 Bendable Light. 15" long x 1/4" diameter flexible wand with armored memory shield to hold position. Aluminum housing, krypton bulb, and on/off switch recessed in handle. Includes storage tube. Uses three AA batteries (not included).

ECF22C Flexlite. Illuminates recessed or hard-to-view areas. Features flexible 9" coaxial cable, push button switch, pocket clip, and aluminum barrel. Snap-on logo etched on barrel. Lamp head will pass through 9/32" or larger opening. Uses two AA cells (batteries not included). Includes replacement bulb (ECF22B1). 14 1/4" long.

ECF21A Flexlite. Illuminates recessed or hard-to-view areas with bright Krypton bulb. Switch is located at bulb head for ease of operation. Solid 4" long copper cable retains desired shape. Anodized, machined aluminum barrel for durability. Uses two AA cells (batteries not included). 9 1/2" long.

Magnifiers

YA810 Optical Magnifier Flashlight. For locating timing marks and serial numbers. Approximately 4X magnification. Two AAA batteries are included.

YA527 Eye Loupe. Precision-ground 5X lens with a 2" focal length.

YA537 Pocket Magnifier. Folding magnifier includes two 3X lens. Use singly or together for a combined 6X effect.



ECF1600 Bendable Light. Heavy-duty barrel handle and switch. Features 10", flexible shaft and 3/16" high-intensity lamp. Includes two AA batteries. 16" long.

YA5100B Bendable Light. Features brilliant krypton lamp on a slender, 15" long, flexible shaft. Includes 24" extension cover, which can make the light almost 40" long for difficult-to-view areas. 3/16" lamp diameter.

YA5100-2 Flashlight Bulb.

YA5100-3 Replacement Storage Tube.

YA5100B1 Flashlight Switch.

ECF1130 Inspection Light Kit. Kit includes penlight, flexible inspection wand and fiber optic wand adaptor. Penlight measures 6.12" x 0.50" dia (155.6 x 12.7mm dia), uses an E10-Phillips bulb (2.25V x 0.25) and uses 2 AAA batteries (included). Flexible Inspection Wand measures 10" (254mm) long and uses the YA5100-2 E5-Krypton Bulb (2.4V x 0.5A). Fiber Optic Wand Adaptor measures 7" (177.8mm) long and uses the Fiber Optic Lightguides Bulb (3mm). All components are stored in a plastic case with foam insert and clear cover.



WARNING

- Do not remove or bypass the grounding prong on any electrical plug.
- Read additional safety precautions on pages M1 to M4.



Lighting Utility Lights

Rechargeable

Operates on Snap-on® CTB Series 9.6V, 12V, 14.4V and 18V Battery Packs. Multi-positional use with 360° swivel hook, balancing on base or balancing on back of lamp with light directed upwards. Housing resists impact, temperature and most automotive fluids. Bright 13W twin-tube bulb. 10,000 hour bulb life. LED display indicates lamp is receiving power. Measures 11.5" x 8" x 3". Uses replacement bulb ECU215A4A. Does not include battery pack or charger. UL Listed. CE Conformity.
Australia: Use CTCFA318 Charger. **Europe:** Use CTCFE318 Charger.
Japan: Use CTCJ318 Charger. **United Kingdom:** Use CTCFU318 Charger.



Rechargeable

Stock No.	CTFL918
Duration Per Charge/9.6V	1 hr., 50 min.
Duration Per Charge/12V	Up to 3 hours
Duration Per Charge/14.4V	Up to 3 hours
9.6V System	Use CTB100Battery/CTC318 Charger.
12V System	Use CTB312 Battery/CTC318 Charger.
14.4V System	Use CTB314 Battery/CTC318 Charger.
18V System	Use CTB318 Battery/CTC318 Charger

Single Tube

ECU4250A (120VAC) 15W Fluorescent. Resists grease, oil, and vapors. Not immersible. Plug-in ballast, light reflectors, hanging hook, and 3-conductor extension cord included. Floating, molded nylon sockets absorb shock for longer bulb life. UL/CUL Listed.

ECU410 (12VDC) 4-Watt Compact Fluorescent. Unique size for lighting in restricted areas. Black printed reflector minimizes light bleed through. Small clip on tube for hanging lights. Includes cigarette plug to battery clip adaptor. Coiled cord extends to 10 feet.

ECU415BK (120VAC) 15 Watt Fluorescent. High impact material in the handle and top cap. Tube with diffuser for better light transmission. Metalized reflector prevents light bleed through. Metal hanging hook on top cap. Two hooks on tube for horizontal positioning. Premium durability and chemical resistance. In-line ballast (6' from plug end).

ECU444KT (120VAC) 15W Fluorescent. Under hood utility light easily attaches to the hood to illuminate the entire engine compartment. Fits hood widths from 47" to 80" (1193.8 to 2032mm). Attachment hooks are padded to prevent damage to the hood. 25' cord is flexible and resists oil and water.



ECU415BK

ECU410

ECU444KT

ECU444 Under Hood Utility Light. Same as ECU444KT except does not include under hood attachment hooks.

ECU325BK

ECU4325A

ECU4425A

Twin Tube

ECU325BK (120VAC) 13 Watt Compact Fluorescent. High impact material in the handle and top cap. Tube with diffuser for better light transmission. Metalized reflector prevents light bleed through. Metal hanging hook. Premium durability and chemical resistance. In-line ballast (6' from plug end). Uses ECU325-4 Rough Service Bulb.

ECU350BK. Same as ECU350BK except with 50' cord.

ECU4325A (120VAC) 13-Watt Fluorescent. Instant On/Off switch provides "light on command". Hanging hooks for portability. UL/CUL Listed.

ECU4425A 120VAC, 25' cord. Angled design improves lighting in tight areas. Shatter resistant housing and lens. Instant start cold weather bulb. 25-foot sub-zero premium cord is flexible to -58°. Strain relief at handle base adds to cord life. 13 amp power outlet in handle. 360° swivel hanging hook, hanging loop at end of handle and adjustable magnet clamp allow this fluorescent angle light to be used almost anywhere. UL/CUL Listed. 16" long. 1-year warranty (except bulb).

ECU425ABK (120VAC) 13 Watt Angle Head Fluorescent. Case and lens are made from impact and chemical resistant proprietary material. Metal hanging hook with ratcheting action for better positioning. 13 amp accessory tool tap. Cord features superior cold weather (flexible to -58°), chemical and abrasion resistance. Uses ECU325-4 Rough Service Bulb.



ECU425ABK

ECU4450A. Same as ECU4425A except with 50' cord.

ECU412BK (12VDC) 13-Watt Angle Head Fluorescent. Power from cigarette lighter or use adaptor to power from battery. Ribbed, ergonomic handle for greater comfort. Case and lens are made from impact and chemical resistant proprietary material. Folding hook rotates 360°. Includes cigarette plug to battery clip adaptor.

ECU325-4 Rough Service Replacement Bulb. Silicon cocoons internal components in base to extend starter life. Superior durability in harsh conditions. Decreases downtime for replacing bulbs. Fits most 13-watt fluorescent lights. Replacement bulb for most twin tube 13 Watt fluorescent lights.

ECU43251A Replacement Bulb. Twin tube, flicker free, cold temperature replacement bulb. 13-watts.

Single / Twin Tube Utility Light Specifications

Stock No.	Lamp Style	Bulb Voltage	Bulb Type	Bulb Wattage	Bulb Length, inches	Cord Type	Cord Length, feet	Replacement Bulb	Overall Length, inches
<i>Single Tube</i>									
ECU4250A	Tubular	120VAC	Single	15	17 3/4	18/2 SJTOW	25	ECU42501	23
ECU410	Tubular	12VDC	Single	4	7	SPT-2 Coiled	10 (extended)	ECU4106	7 1/2
ECU415BK	Tubular	120VAC	Single	15	17	18/2 SJTOW	25	ECU250A17	25
ECU444KT	Tubular	120VAC	Single	15	41	18/2 SJTOW	25	ECU4443	44 1/4
<i>Twin Tube</i>									
ECU325BK	Tubular	120VAC	Twin	13	7	18/2 SJTOW	25	ECU325-4	13
ECU350BK	Tubular	120VAC	Twin	13	7	18/2 SJTOW	50	ECU325-4	13
ECU4325A	Tubular	120VAC	Twin	13	7	18/2 SJTOW	25	ECU43251A	12 1/2
ECU4425A	Angle Head	120VAC	Twin	13	7 1/4	16/3 SJEOW	25	ECU43251A	16
ECU425ABK	Angle Head	120VAC	Twin	13	7	16/3 SJOW	25	ECU325-4	14
ECU4450A	Angle Head	120VAC	Twin	13	7	16/3 SJTOW	50	ECU43251A	16
ECU412BK	Angle Head	12VDC	Twin	13	7	18/2 PVC Coiled	15 (extended)	ECU215A4A	14

See additional Battery and Charger specifications on page 256



ECU412BK

Utility Lights Lighting

LED (Light Emitting Diode)

ECULED30. 120VAC, 25' cord. LED bulbs have a life of 50,000 hours for almost 5 years of continuous operation. Thirty focused LED's (Light Emitting Diode) provide ample lighting. A circuit board, rather than the power brick method, is used to maximize LED efficiency. LED's are mounted "through the board" for added toughness. Heat is dissipated via heat sink. 16/3 SJTOW oil and water resistant, cold weather (flexible to -58°F) cord. Molded strain relief protects cord at handle contact. Lamp can be mounted by the hook at lamp end, loop at handle end or strong magnet at middle of unit that is easily removed or repositioned via velcro strap. 13 amp outlet in handle. Made in USA, with Snap-on logo on handle and lamp head. Housing has a lifetime warranty. Two year limited warranty against failure to illuminate.

ECULED30

ECU4000

Four Tube Specifications

Stock No.	Bulb Length, inches	Bulb Type	Bulb Wattage	Cord Length, feet	Cord Type	Lamp Style	Overall Length, inches	Replacement Bulb	Voltage
ECU4000	5 3/4	Quad	26	25	16/3 SJTOW	Flat Head	16	ECU43251A	120VAC

ECU4000 Utility Light. Four tube, 26-watt, 13-amp fluorescent bulb for high light output. Comfortable, sure-grip handle with finger tip switch. Grounded outlet in handle base. Swivel hook at top end of light. Rugged housing protects bulb from damage. 25-foot cord. 120VAC power. UL Listed in US and Canada. Uses ECU43251A Replacement Bulb.

Reel Type Utility Lights Specifications

Stock No.	Lamp Style	Bulb Voltage	Bulb Type	Bulb Wattage	Bulb Length, inches	Cord Type	Cord Length, feet	Power Lead Length, inches	Replacement Bulb	Overall Length, inches
ECUR4500A	Tubular	120VAC	Single	15	17 3/4	16/3 SJTOW	50	2	ECU42501	23
ECUR2450A	Angle Head	120VAC	Twin	13	7	16/3 SJTOW	50	2	ECU43251A	16
ECURO2350A	Tubular	120VAC	Twin	13	7	16/3 SJTOW	50	2	ECU43251A	12 1/2
ECRB4430	Incandescent Metal Shield	120VAC	Incandescent	75 max.		16/3 SVT	30	2		12
ECUR4000	Twin (2 bulbs)	120VAC		26	7	16/3 SJTOW	50	2	ECU43251A	

Reel Type Utility Lights

ECUR4500A. 120 VAC, 50' cord reel mounts to wall or ceiling with 180° swivel for maximum ease of use. Very bright light has double insulated lamp head. Switch is enclosed underneath the end cap to prevent dirt and moisture build up. 360° swivel hook plus two horizontal on lamp. Tube assembly and housing are shatter resistant. UL/CUL listed. Light is 23" long.

ECUR2450A (120VAC) 13-Watt Fluorescent. Reel mounts to wall or ceiling with 180° swivel for maximum ease of use. Instant start cold weather bulb. 13-amp (3-prong) outlet in handle. Circuit breaker (10 amp) protects tool tap and reel from circuit overload. Adjustable ball stop on cord. 360° swivel hook on lamp. Housing is shatter resistant ABS. UL/CUL Listed.

ECURO2350A. 120VAC, 50' cord. Reel mounts to wall or ceiling with 180° swivel for maximum ease of use. Automatic switch activates light when cord is extended and deactivates light when cord is retracted. Adjustable ball stop on cord. Mirror finish reflector delivers maximum brightness. Double insulated lamp head. 360° swivel hook plus two horizontal hanging hooks on lamp. Housing is shatter resistant ABS. Light is 9 1/4" long. UL/CUL listed. OSHA compliant.

ECU5000 Hazardous Duty Utility Light. For general use in environments where potentially explosive dust, vapors or gases are present. Ideal for refineries, steel mills, grain elevators, aircraft hangers, commercial garages, chemical processing facilities and below ground service pits. Features include non-sparking aluminum guards, shock-resistant tempered glass globe, ribbed anti-slip aluminum handle, rubber bumper guards and swivel hook. Light is UL Listed/CSA Certified for Class I/Division I, Groups C and D (flammable gases and vapors) and Class II/Division I, Groups F and G (ignitable dust). OSHA compliant with regulations 1910.307(b) and 1926.407(b) when used and maintained properly.

ECURO2350A

ECUR2450A

ECRB4430 (120VAC) 75-Watt Incandescent. Steel-encased, retractable reel and incandescent light. Full cord retraction when not in use. Adjustable cord stop for convenience. Handle features three-prong grounded socket for auxiliary power source. Uses bulbs up to 75W maximum. 12" long.

ECUR4000. 120VAC, 50' cord. Reel mounts to wall or ceiling for ease of use. Angled design improves lighting in tight areas. Shatter resistant housing and lens. Instant start on/off switch. Instant start cold weather bulb. 50' cord features adjustable ball stop. Strain relief at handle base adds to cord life. 13 amp power outlet in handle, 10-amp circuit breaker in reel. 360° ratcheting swivel hanging hook for multiple location usage. UL/CUL Listed. Made in U.S.A.

ECU5000 Specifications

Stock No.	ECU5000
Bulb Type	Fluorescent
Bulb Wattage	26
Cord Length, feet	24', 7"
Cord Type	1090-Hz w/16-3 SOW-A
Plug	NEMA 5-15 non-hazardous duty
Overall Length, inches	19 1/4
Replacement Bulb	ECU50001
Voltage	120VAC, 50/60Hz

ECU5000

Flexible

ECU956A. 18 bulb, flexible light reaches into difficult access areas. 1/2" clear round PVC housing. If one bulb burns out, others stay lit. Lights are 9V incandescent, 120VAC. 25' cord.

ECU956A

Halogen

ECU512 Halogen Utility Light. Bright halogen lighting with easy to replace bulb. Stable magnetic base with minimum pull off force of 45 lbs. 15' cable with power adaptor plug allows mobility. Pivoting lamp housing to adjust beam direction. 12VDC operation.

ECU512

ECU313

ECU4007

ECU300

Utility Light Accessories

ECU313 Fluorescent Conversion Utility Light. (120VAC) Just remove the guard from an incandescent light and add the ECU313 to get the benefits of a fluorescent. 13W bulb provides 60W of light. 10,000 hour bulb life. Shatter-resistant plastic body. 13 1/2" long. Replacement bulb is ECU43251A.

ECU4007 Fluorescent Light. (120VAC) Extension cord (at least 10-gauge) plugs into male plug in base for instant light and portability. Features include a nearly unbreakable body and lens, 360° swivel hook, heavy duty end cap and compact design. Output of 13-watt, twin tube fluorescent bulb is equivalent to 60-watt incandescent bulb. 13 1/2" long. Replacement bulb is ECU43251A.

ECU300 Magnetic Utility Light Clamp. Features an expandable clamp on a magnetic base. Can be used with any of our fluorescent utility lights (except ECU410). Or use with any "D" cell flashlight.

See Warranty Information on inside front cover.



WARNING

- Do not remove or bypass the grounding prong on any electrical plug.
- Read additional safety precautions on pages M1 to M4.



Measuring Micrometers and Sets

Each micrometer in the MIC and the MIC Metric Series can be field calibrated for accuracy and minimal down time. Direct mechanical/digital readout on both sides of the tool. Superior reliability and accuracy from carbide measuring faces.

Thimble style movement with lock. Ratchet stop feature provides fast and accurate measurement. Includes storage case with foam insert. Insert color is red on the SAE micrometers, and black for the metric. Made in U.S.A.



MIC1

MIC and MICM feature:

- Direct Digital Readout on Both Sides
- Precision Friction Thimble
- Carbide Measuring Surface
- Spindle has Larger Measuring Surface



MIC1M



MIC103



MIC3M



MIC103M

SAE Digital Micrometers

Stock No.	Range, inches	Increments, inches
MIC1	0-1	.0001
MIC2	1-2	.0001
MIC3	2-3	.0001
MIC4	3-4	.0001
MIC5	4-5	.0001

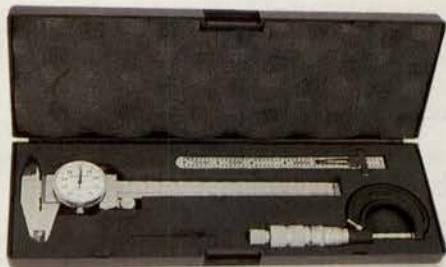
MIC103 Set. MIC1, MIC2 and MIC3 in plastic case. Case has cut-outs for MIC4 and MIC5.

Metric Digital Micrometers

Stock No.	Range, mm	Increments, mm
MIC1M	0-25	0.1
MIC2M	25-50	0.1
MIC3M	50-75	0.1
MIC4M	75-100	0.1
MIC5M	100-125	0.1

MIC103M Set. MIC1M, MIC2M, and MIC3M in plastic case. Case has cut-outs for MIC4M and MIC5M.

MICCAL6



Complete Measuring Set

MICCAL6 Set. Set includes MICB1 Outside Micrometer (pg. 306), RULER602 Pocket Rule (pg. 308) and PMTB133 Dial Type Calipers (pg. 307) in MICCAL6PB Plastic Box.

Outside Micrometers

Micrometers are graduated in .0001" for greater accuracy. Features include carbide anvils, spindle locks, I-Beam frame for greater dimensional stability and friction stops for consistent measurements. All models include standard except MICB1. Made in USA. (These features do not apply to PMF109/109M)

PMF109 Friction thimble. Range is 0 to 1" in .0001" increments. Most of the same features as the digital micrometers plus decimal equivalent stamped on frame and a locking clamp locks onto setting.

PMF109M Metric version of PMF109. Range is 0 to 25mm in .001mm increments.

MICB1 Range is 0 to 1" in .0001" increments.

MICB2 Range is 1 to 2" in .0001" increments.

MICB3 Range is 2 to 3" in .0001" increments.

MICB4 Range is 3 to 4" in .0001" increments.

MICB5 Range is 4 to 5" in .0001" increments.

MICB6 Range is 5 to 6" in .0001" increments.

MICB106 Includes MICB1 thru MICB6 (6 pcs) in fitted plastic case.

MICB106

MICB6

MICB2



Micrometers and Sets Measuring

PMF117



Inside Micrometer Set

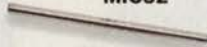
PMF117 Set. Tubular Design. Range is 2 to 12" in .001" increments. Includes inside micrometer head and a series of coil spring-pressure contact rods. Comes in a wooden case.

Micrometer Test Gauges

These test gauges are used as micrometer standards. Accuracy meets Federal Specifications.

MIC22	2"	MIC2M2	25mm
MIC32	3"	MIC3M2	50mm
MIC42	4"	MIC4M2	75mm
MIC52	5"	MIC5M2	100mm

MIC52



PMF119



Telescoping Gauges

PMF119 Range is 5/16" to 6". Measurable depth is 4" to 5". Set of six is packaged in a plastic pouch.



MICDEPTH6

Depth Micrometer Sets

Measure depths of slots, counterbores, holes and keyways up to 6" in depth. 4" satin chrome base for greater stability. Graduated in .0001" increments. Includes fitted plastic case.

	Range, inches	Increments, inches	Base Size, inches	No. of Rods
MICDEPTH6	0-6	.001	4	6

PMF124



Small Hole Gauge Set

PMF124 Set. Knurled knob at handle for size adjustment. Full round gauging surface with flat bottom. Set includes: .125 to 200" ga., 3 5/8" long; .200 to 300" ga., 3 7/8" long; .300 to 400" ga., 4" long; and .400 to 500" ga., 4 1/2" long.

Calipers / Magnetic Bases / Dividers

PMF132B



PMF147A



Calipers

PMF132B Digital Caliper. Gauge is 0 to 6" in .0005" (.01mm) resolutions. Use for inside, outside, depth and step measurements. Large LCD indicates inch/mm, hold and zero functions. Incremental floating zero. Zero button may be configured as hold button. Automatically configures as a data output switch for SPC applications. Hardened stainless steel construction.

PMF147A U.S./Metric Dial Type Caliper. Gauge is 0 to 6" in high (0.001" increments) and metric (0.1mm increments). Includes storage case.

CM6421 Vernier Caliper. Range is 0" to 6" in .001" increments (0 to 150mm in .05mm increments). Includes knurled fine adjustment control and thumb lock screws.

CM6421



PMTB132



CM6506



PMTB133



CM6506 Slide Rule Caliper. Range is 0" to 4" in 1/16" increments (0 to 100mm in 10mm increments). Use both inside and outside measurements.

PMTB132 Digital Caliper. Range is 0" to 6" in .001" increments (0mm to 150mm in 0.1mm increments). Use for inside, outside, depth and step measurements. Easy to read LCD. Thumb roller for precise adjustment. Direct inch/metric conversion. Constructed from glass fiber reinforced superpolyamide.

PMTB133 Digital Caliper. Range is 0" to 6" in .001" increments (0.100" range per revolution). Use for inside, outside, depth and step measurements. Thumb roller for precise adjustment. Adjustable dial. Constructed from stress relieved stainless steel with satin chrome finish.

CM6415



CM6416



Magnetic Bases

CM6415 Holder. Includes two diameter rods (4" long with 1/4" and 5/16" diameter), universal rod connector, and steel center post (4" x 5/16"). Base (2" x 1 1/4" x 2") grips flat or curved metal surfaces.

CM6416 Holder. Magnet has "on/off" switch. Base is 2 3/8" x 1 7/8" x 2 1/2". Post is 7" x 15/16". Rod is 6" x 25/64". Will grip flat or curved metal surfaces.

PMF129



CM6524



Dividers

PMF129 Divider. Spring-type divider has virtually no torsion or side play. 6".

CM6524. Knurled thumb nut opens and closes legs up to 6". Measurement must be attained by using calipers with a stainless steel rule.

Note: Also see Cummins Injector Timing Gauges (pg. 341), Disc Brake Gauges (pg. E92), Cylinder Bore Gauges (pg. E60), and Valve Gauges (pg. E56).

Measuring

Timing / Telescoping / Dial Test Indicator Gauges

Timing Gauges

GA3625 Find top center without removing the cylinder head. Direct reading in all straight spark plug holes. Dial face can be rotated and locked for zero setting. Automatic revolution counter. Range: 0-1". Graduations: 0.0005". Reading: 0-50. Includes gauge, two spark plug hole thread adaptors (14mm and 18mm), 1" long contact point and foam lined storage box.

GA555MA Motorcycle Timing Gauge. Find top dead center without removing the cylinder head. Check ignition and cam timing without removing the fuel tank. Compact design for cramped quarters on many motorcycles. Range is 0 to 5mm in 0.01mm increments. Gauge has black dial face, yellow graduations and hands and red bezel. 12mm and 14mm adaptors feature locking collars. Includes 1.5" (38.1mm) long, 0.19" (4.8mm) diameter and 2.0" (50.8mm) long, 0.19" (4.8mm) diameter contact points. Includes CM6549150 Storage Case.

GA3400



GA3640



GA3645



GA3634



GA3450



GA3460



Dial Test Indicator Sets

GA3400 Determine lash; measure runout of flywheels on torque converters; bushing or bearing wear, check crankshaft bearing wear. Includes jeweled bearing indicator with 1 1/2" diameter bezel and rear mounted plunger; two extra contacts (3/16" and 5/16" diameter); indicator holding rod; hole attachment for checking bores (.125 range); indicator C-clamp mounting and universal rod connector and tool post holder. Stored in CM6540050 Plastic Case.

GA3640 General use indicator set. Magnetic base attaches to flat surface. Checks ball joint, tie rod, cam and valve guide wear, and wheel rim, flywheel and disc brake runout. Features a large 2 1/4" diameter dial with 1" range. Dial is continuous with revolution counter. Bezel may be rotated for any setting point. Includes powerful magnetic base with post, stepped rod and clamps along with contact, rod connector and indicator holding clamp. Stored in CM6564050 Plastic Case.

GA3645 Checks ball joint, tie rod, cam and valve guide wear, and wheel rim, flywheel and disc brake runout. Features a large 2 1/4" diameter dial with 1" range. Dial is continuous with revolution counter. Bezel may be rotated for any setting point. Includes Sta-Firm Magnetic Base that conforms to any surface with more than 50 moveable feet. Base includes adjustable swivel clamp for post and rod. Stored in CM6564550 Plastic Case.

GA3634 Check ball joint wear, brake rotor runout, gear backlash and valve guide or camshaft wear. Special locking pliers clamp securely to any convenient object. Eliminates vibration problems and false readings by mounting directly on spindle. Includes CM6563450 Plastic Case.

Dial Test Indicator Set Specifications

	Range	Graduations	Reading
GA3400	.200"	.001"	0-100
GA3640	1.00"	.0005"	0-50
GA3645	1.00"	.0005"	0-50
GA3634	1.00"	.0005"	0-50
GA3450	0.00" to 4.00"	.0005"	0-50
GA3460	0.00" to 1.00"	.0005"	0-50
	(0.00" to 4.00" with extension)		

All sets are made in the USA.

GA3450 Allows quick and accurate pinion depth set for all aftermarket gear sets. Works on OEM gear sets with pre-measurement of pinion depth. Incorporates a swing arm assembly and indicator holder. Indicator and three precision setting masters. Gauge and components are stored in CM6547050 Case. GA3450 is also included in the GA3460 Master Rear Axle Set.

GA3460 Use for rear end set-up measurements on domestic and import cars and light trucks up to one ton. Measures gear backlash and run-out, axle end play, pinion depth and end play and carrier assembly play. Includes the GA3450 Pinion Depth Gauge, Sta-Firm magnetic base with 50 movable feet that conform to uneven surfaces, locking pliers base for non-metallic attachment, flexible gooseneck for use with either base and an assortment of extensions and contact points. All components housed in CM6566850 Storage Case.

Contact Points and Extensions

GA3601 6" Contact Extension. Use with Snap-on® GA3400, GA3634, GA3640 and GA3645 Dial Test Indicators. 4-48 female thread allows the extension of any contact point for special applications. 6" long.

GA3609 Contact Point and Extension Set. Use with Snap-on® GA3400, GA3634, GA3640 and GA3645 Dial Test Indicators. 4-48 female thread allows the extension of any contact point for special applications. Extensions can be joined together to extend reach. Contact points feature a polished tip with radius end and are manufactured from hardened steel. Set includes four (1") extensions, four contact points (0.2", 0.4", 0.6", 0.8") plus holder for all set components.

GA3601



GA3609



Measuring Sets / Straight Edges / Steel Rules

Measuring Sets

SQUARE12 Set includes SQUARE90 Sliding Head and RULER12SQ Steel Rule. Made in USA.

SQUARECOM12 Set includes SQUARE180 Protractor, RULER12SQ Steel Rule plus SQUARE45 and SQUARE90 Sliding Heads. Made in USA.

SQUARE45 Center head for 45° angles only. Black wrinkle powder coat finish. Meets or exceeds Federal Specification GGG-S-656d for accuracy. Made in USA.

SQUARE90 90° square head with a bubble level and scribe points. Black wrinkle powder coat finish. Meets or exceeds Federal Specification GGG-S-656d for accuracy. Made in USA.

Precision Straight Edges

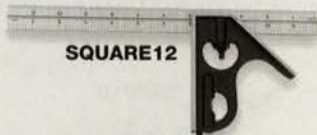
Use with feeler gauges to check for distortion in engine blocks, cylinder heads, flywheels, main bearing saddles, cam bearing saddles, cam covers and bell housings. Precision working edge ground to within .0002" per 12" in length. Great stability with .25" thickness and 1.50" width. Convenient hanging hole and edge protector. Made in USA.

GA435 18" long.

GA438A 24" long.

GA535 35" long.

SQUARE12



SQUARECOM12



SQUARE180 Protractor is graduated 180° in both directions. Includes bubble level. Black wrinkle powder coat finish. Meets or exceeds Federal Specification GGG-S-656d for accuracy. Made in USA.

RULER12SQ Precision ground and hardened steel blade for greater accuracy. Satin chrome finish. Graduated in 1/8" and 1/16" increments on one side and 1/32" and 1/64" increments on the other. Meets or exceeds Federal Specification GGG-S-656d for accuracy. Made in USA.

GA438A



Steel Rules

RULER120



RULER600



RULER601



Steel Rules

RULER120 Steel Rule. 12" stainless steel rule. U.S. edge is in 1/32" increments for first 3", 1/16" increments for last 9". Metric edge is etched with mm and cm increments. Storage pouch has decimal equivalents printed on front. Made in USA.

RULER600 Steel Rule. 6" stainless steel rule. Graduated in 1/32" and 1/64" increments. Storage pouch has decimal equivalents printed on front. Made in USA.

RULER601 Pocket Rule. 6" stainless steel rule. Graduated in 1/10" and 1/50" increments on one side, 1/32" and 1/16" increments on the other side. Storage pouch has decimal equivalents printed on front. Made in USA.

RULER602 Steel Rule. 6" stainless steel rule with pocket clip. U.S. edge in 1/32" and 1/16" increments on one side, mm and cm increments on the other side. Storage pouch has decimal equivalents printed on front. Made in USA.

CM6514 Pocket Rule. Graduated in 1/32nds and 1/64ths. Top quality stainless steel, precision ground and tempered with clear etched graduations. Spring-style pocket clip.

Tape Rules and Levels



All models feature a tape locking device. All models (except YA3600) have a belt clip.

	Length	Case Color	Increments	Blade Width, inches	Case Dimensions, inches	Description
U.S. Tape Rules						
YASG153	12'	Red	16ths plus 16" stud markings	3/4	2 3/4 x 2 3/4	Inside dimension, diameter scale and decimal equivalents on back side
YASG155	25'	Red	16ths plus 16" stud markings	1	3 1/4 x 3 1/4	Rubber grip, active bumper, heavy duty spring
YASG155G	25'	Green	16ths plus 16" stud markings	1	3 1/4 x 3 1/4	Rubber grip, active bumper, heavy duty spring
YASG155O	25'	Orange	16ths plus 16" stud markings	1	3 1/4 x 3 1/4	Rubber grip, active bumper, heavy duty spring
YASG155CP	25'	Red	Inches, 16ths, centerfinding scale	1	3 1/4 x 3 1/4	Rubber grip, active bumper, heavy duty spring, patented centerfinding scale
YASG155EP	25'	Red	Inches, 16ths, with fractions	1	3 1/4 x 3 1/4	Rubber grip, active bumper, heavy duty spring, fractional read blade
YASG156	25'	Yellow	Inches, 16ths, with fractions	1	3 1/4 x 3 1/4	Rubber grip, active bumper, heavy duty spring
GA429A	100'	Yellow	16ths plus 16" stud markings	3/8	4 1/2 x 4 3/4	Rubber grip case with hand crank mechanism
U.S./Metric Tape Rules						
YASG155EM	25'	Red	Inches, 1/16", mm, cm	1	3 1/4 x 3 1/4	Rubber grip, active bumper, heavy duty spring, english and metric markings
YA3600	16'	Chrome	Inches, 16ths, mm, cm	3/4	2 1/2 x 2 1/2	Magnets on four sides, three-pronged end tip
GA427A	10'	Black	Inches, 16ths, mm, cm	1/2	2 1/4 x 2 1/2	Compact all-purpose design
Metric Tape Rules						
YASGMM153	3M	Red	mm, cm	3/4	2 3/4 x 2 3/4	Rubber grip, active bumper, heavy duty spring
YASGMM154	5M	Red	mm, cm	3/4	2 3/4 x 2 3/4	Rubber grip, active bumper, heavy duty spring
YASGMM158	8M	Red	mm, cm	1	3 1/4 x 3 1/4	Rubber grip, active bumper, heavy duty spring

TL100A



YAS9701B



YA328A



Levels

TL100A Torpedo Level. 9" precision measuring tool designed for close quarter work. Magnetic strips and v-grooving make it ideal for pipe and conduit work.

YAS9701B Pocket Level. Features a plastic body with a lengthwise groove for use on cylindrical objects and a magnet at the end of the level. 5" long. Includes pocket clip.

YA328A Angle Locator. Precise, accurate tool to determine angle measurements. Ideal for checking drive shaft angle. Red degree indicator located behind numbers for exact reading of graduations. English and metric scales molded into base of tool in 1/8" and DM. Large 1 7/8" x 7/8" magnet inserted in base for secure retention.

Measuring Feeler Gauges

FB325A

More Feeler Gauges and Gap Gauges are available

FB335

FBL325A

General Use

Stock No.	No. of Blades	Blade Dimensions, inches	Blade Sizes	Increments	Description
FB310B	13	1/2 x 3 1/4	.001", .0015", .002" thru .008", .010", .012", .013", .015	—	Double stamped with U.S. and metric sizes.
FB325A	25	1/2 x 3	.0015", .002" thru .025"	.001"	General Use Feeler Gauge. Double stamped with U.S. and metric sizes.
FB335	35	1/2 x 3	.0015", .002" thru .035"	.001"	Swedish feeler blade steel.
FB340	25	1/2 x 3	.0015", .002" thru .025"	.001"	Stainless Steel, Non-Rusting. Double stamped with U.S. and metric sizes.
FBL325A	25	1/2 x 12	.0015", .002" thru .021", .025", .027", .030", .040	.001"	Long Blade. Double stamped with U.S. and metric sizes.
FBM320	20	1/2 x 3	.05mm thru 1mm	.05mm	Metric Feeler Gauge Set.

Ignition

Stock No.	No. of Blades	Blade Dimensions, inches	Blade Sizes	Increments	Description
FB316B	18	1/4 x 1 3/4	.010", .012", .013", .015" thru .022", .024" thru .026", .028", .030", .032", .035"	.001"	Short Blade Ignition/Spark Plug Gauge Set
FB326B	10 16	1/2 x 3 1/4 x 1 3/4	.003" thru .008", .010", .012", .013", .015", .008", .010", .012", .013", .015", .017", .018", .020", .022", .024" thru .026", .028", .030", .032", .035"	.001"	Combination Feeler/Ignition Gauge

FB316B

FB326B

FB308D

FB322

FB328A

Bent and Step Blades

Stock No.	No. of Blades	Blade Dimensions, inches	Blade Sizes	Increments	Description
FB300A	25	1/2 x 3	.006" thru .030"	.001"	Bent Blade Feeler Gauge Set
FB308D	12	1/2 x 3	.008"- .010", .011"- .013", .013"- .015", .014"- .016", .015"- .017", .017"- .019", .018"- .020", .020"- .022", .023"- .025", .025"- .027", .026"- .028", .028"- .030"	.001"	Step Blade Step Feeler Gauge Set Bent handle to clear manifolds, double stamped with U.S./Metric sizes. Blades are mounted on FBFT7 holder.
FB322	22	1/2 x 3 3/8	.004"- .006" thru .025"- .027"	.001"	Step Blade "Go-No" blades with 2 sizes each.
FB328A	2	1/2 x 3	.011"- .013", .013"- .015"	—	Step Blade For valve adjustment on GM 8.2L engines, double stamped with U.S. and metric sizes.
FBM322	2	1/2 x 3 3/8	.20-.30mm, .40-.50mm	—	Metric Step Blade 10 3/4" long bent handle.

FB300A

Diesel

Stock No.	No. of Blades	Blade Dimensions, inches	Blade Sizes	Increments	Description
FB307D	14	1/2 x 4 1/2	.008", .011" thru .014", .016" thru .018", .020", .023" thru .025", .027", .029"	.001"	Bent Blade Cummins Diesel Blade ends are bent at 90° angle: blades are secured on FB307C1 ring.

FB307D

Feeler Gauges Measuring

FB305A



FB3330



FBP10



Specialty Feeler Gauges

Stock No.	No. of Blades	Blade Dimensions, inches	Blade Sizes	Increments	Description
FB305A	6	1/2 x 3	.006", .008", .010", .012", .013", .015"	.002"	Non-Magnetic Double stamped with U.S. and metric sizes.

FB3330 Easy-Grip Feeler Gauge Set. Non-magnetic double stamped with U.S. and metric sizes. Set includes ten feeler gauges with orange screwdriver type handles. Blades are 4" long and feature a 45° offset for use on valve tappets as well as air gapping applications. Set is displayed in the FB33301 Wood Box. Blades included are .010", .012", .014", .016", .018", .020", .022", .024", .027", and .030". Twenty-five blades are available in all (.006" thru .030") in .001" increments.

FBP10 Pocket Feeler Blade. Flat, ramp-style feeler gauge handles full range of spark plug gapping requirements from .020 to .080". Reverse side has metric scale to 2mm. Includes pocket clip. Orange screwdriver-type handle with pocket clip. 5 1/2" length.

FBS5



Feeler / Gap Gauge Set

FBS5 Feeler and Gap Gauge Set. Five-piece set includes:

FB300A Bent Blade Feeler Gauge	FB305A Non-magnetic Feeler Gauge
FB325A General Use Feeler Gauge	GA461C Spark Plug Gap Gauge
FB360C Spark Plug Gap Gauge	FBS5-1 Kit Bag

Feeler Blades and Holder

FB6B0015 thru FB6B040 (12") Feeler Gauge Blades. Use in the FB312 holder. When ordering, blade size is stock number suffix; prefix is FB6B. Includes 34 blades as follows:

.0015"	.005"	.010"	.015"	.020"	.025"	.030"
.002"	.006"	.011"	.016"	.021"	.026"	.032"
.0025"	.007"	.012"	.017"	.022"	.027"	.035"
.003"	.008"	.013"	.018"	.023"	.028"	.040"
.004"	.009"	.014"	.019"	.024"	.029"	

FB312 Feeler Gauge Holder. Holds two 12" blades. Blades extend 2" or farther and are held by sliding end clamps. Handy where valve specifications differ and as "go/no-go" gauge.

FB301A



FB303B



GA461C



FB360C



FB361A



Spark Plug Gauges / Gappers

FB301A Wire Gap Gauge for Point Ignition Systems. Includes eight wires in sizes .020", .022", .025", .028", .030", .032", .035", and .040". Also includes an electrode bender.

FB302A Wire Gap Gauge for Aircraft, Motorcycle, and Small Engines. Similar to FB301A. Includes eight wires in sizes .015", .016", .018", .020", .025", .028", .030", and .035". Also includes an electrode bender.

FB303B Wire Gap Gauge for Electronic Ignition Systems. Similar to FB301A. Includes six wires in sizes .044", .045", .050", .054", .060", and .080". Also includes an electrode bender.

GA461C Gap Gauge for Point Ignition Systems. Includes six wires protruding 1/4" from edge of metal disc. Wire sizes included are .025", .030", .034", .035", .040", and .045". Has built-in electrode bender. Double stamped with decimal and metric sizes.

FB360C Gap Gauge for Electronic Ignition Systems. Similar to GA461B. Includes six wire sizes: .040", .044", .045", .050", .060", and .080". Double stamped with decimal and metric sizes.

FB361A Gap Gauge. Pocket-size gauge features an inclined ramp for setting gap. 1 1/2" in diameter. Range is .020" to .100". Double stamped with decimal and metric sizes.

Decimal / Metric Conversion Chart

Decimal, inches	Metric, mm	Decimal, inches	Metric, mm	Decimal, inches	Metric, mm	Decimal, inches	Metric, mm	Decimal, inches	Metric, mm
0.0010	0.025	0.007	0.178	0.015	0.381	0.023	0.584	0.031	0.787
0.0015	0.038	0.008	0.203	0.016	0.406	0.024	0.610	0.032	0.813
0.0020	0.051	0.009	0.229	0.017	0.432	0.025	0.635	0.033	0.838
0.0025	0.064	0.010	0.254	0.018	0.457	0.026	0.660	0.034	0.864
0.0030	0.076	0.011	0.279	0.019	0.483	0.027	0.686	0.035	0.889
0.0040	0.102	0.012	0.305	0.020	0.508	0.028	0.712	0.036	0.914
0.0050	0.127	0.013	0.330	0.021	0.533	0.029	0.737	0.038	0.965
0.0060	0.150	0.014	0.356	0.022	0.559	0.030	0.762	0.040	1.016
								0.042	1.067
								0.044	1.118
								0.046	1.168
								0.052	1.321
								0.054	1.372
								0.056	1.422
								0.060	1.524
								0.080	2.032

Thread Restoring Rethreading Taps and Dies

TRC1



TRF1



RTD15M



U.S. Tap and Die Sets

TRC1 Coarse U.S. Rethreading Tap Set.

Includes six NC taps and twelve NC dies (18 pcs). All components have silver finish. Includes:

NC TAPS

TRT2520A, TRT3118A, TRT3716A, TRT4314A, TRT5013A, TRT5612A

NC DIES

TR2520A, TR3118A, TR3716A, TR4314A, TR5013A, TR5612A, TR6211A, TR7510A, TR8759A, TR10008A, TR11257A, TR12507A

TRF1 Fine U.S. Rethreading Tap Set.

Includes six NF taps and twelve NF dies (18 pcs). All components have black finish. Includes:

NF TAPS

TRT2528A, TRT3124A, TRT3724A, TRT4320A, TRT5020A, TRT5618A

NF DIES

TR2528B, TR3124B, TR3724B, TR4320B, TR5020B, TR5618B, TR6218B, TR7516A, TR8714A, TR10014A, TR11212A, TR12512A

Metric Tap and Die Sets

RTD15M Metric Rethreading Tap and Die Set

Includes seven metric dies and seven metric taps. Gold colored. Dies

TDM51B, TDM53B, TDM54B, TDM55B, TDM56B, TDM57B, TRM1025-1

Taps

TRM1025-2, TRT51, TRT53, TRT54, TRT55, TRT56, TRT57

Thread Restorer File

TFM7530B

Color coding for rethreading taps and dies:

NC = Silver NF = Black Metric = Gold

RTD48



U.S. / Metric Combination Tap and Die Sets

RTD48 U.S./Metric Master Rethreading

Includes taps and dies. Also includes TF1124B and TFM7530B Thread Restorer Files. All components are neatly stored in a plastic case (48 pcs).

Taps

TRM1025-2, TRT101, TRT11150, TRT14150, TRT2520A, TRT2528A, TRT3118A, TRT3124A, TRT3716A, TRT3724A, TRT4314A, TRT4320A, TRT5013A, TRT5020A, TRT51, TRT53, TRT54, TRT55, TRT56, TRT5612A, TRT5618A, TRT57.

Dies

TDM51B, TDM53B, TDM54B, TDM55B, TDM56B, TDM57B, TR101, TR11150, TR14150, TR2520A, TR2528B, TR3118A, TR3124B, TR3716A, TR3724B, TR4314A, TR4320B, TR5013A, TR5020B, TR5612A, TR5618B, TR6211A, TR6218B, TRM1025-1.

Thread Restorer File

TF1124B and TFM7530B.

Rethreading Tap and Die Set Components

Size	Stock No.
<i>Rethreading Taps</i>	
1/4" -20	TRT2520A
5/16" -18	TRT3118A
3/8" -16	TRT3716A
7/16" -14	TRT4314A
1/2" -13	TRT5013A
9/16" -12	TRT5612A
1/4" -28	TRT2528A
5/16" -24	TRT3124A
3/8" -24	TRT3724A
7/16" -20	TRT4320A
1/2" -20	TRT5020A
9/16" -18	TRT5618A
M6 x 1	TRT51
M8 x 1.25	TRT53
M10 x 1.5	TRT54
M10 x 1.25	TRM1025-2
M12 x 1.75	TRT55
M12 x 1.5	TRT56
M12 x 1.25	TRT57
M10 x 1.00	TRT101
M11 x 1.50	TRT11150
M14 x 1.50	TRT14150

Size	Stock No.
<i>Rethreading Dies</i>	
1/4" -20	TR2520A
5/16" -18	TR3118A
3/8" -16	TR3716A
7/16" -14	TR4314A
1/2" -13	TR5013A
9/16" -12	TR5612A
5/8" -11	TR6211A
3/4" -10	TR7510A
7/8" -9	TR8759A
1" -8	TR10008A
1 1/8" -7	TR11257A
1 1/4" -7	TR12507A
1/4" -28	TR2528B
5/16" -24	TR3124B
3/8" -24	TR3724B
7/16" -20	TR4320B
1/2" -20	TR5020B
9/16" -18	TR5618B
5/8" -18	TR6218B
3/4" -16	TR7516A
7/8" -14	TR8714A
1" -14	TR10014A
1 1/8" -12	TR11212A
1 1/4" -12	TR12512A
M6 x 1	TDM51B
M8 x 1.25	TDM53B
M10 x 1.5	TDM54B
M10 x 1.25	TRM1025-1
M12 x 1.75	TDM55B
M12 x 1.5	TDM56B
M12 x 1.25	TDM57B
M10 x 1.00	TR101
M11 x 1.50	TR11150
M14 x 1.50	TR14150

NOTE: Rethreading taps and dies renew existing threads; they are not for hardened threads; they are not for cutting new threads.

Thread Restorer Files

Thread Restoring

TF1124B



For any diameter right- or left-hand threads. Removable vinyl handles.

TF1124B. 11, 12, 13, 14, 16, 18, 20, and 24 threads per inch.

TF1127B. 9, 10, 12, 16, 20, 27, 28, and 32 threads per inch.

TFM7530B. Pitches: .75, 1, 1.25, 1.50, 1.75, 2 and 3mm.

TFTFM932



TFTFM932 Thread Restorer File Set. Includes three commonly needed files packaged in a vinyl kit bag. Files feature a black industrial finish and comfortable red vinyl handles. The files included can service a range of 9 through 32 threads per inch and 0.75 through 3 millimeters.

Thread Chasers

TR20C



TR25B



TR21A



U.S. Thread Chaser Sets

TR20C External Set. Includes a small rethreading tool with 1/2" to 5 3/4" diameter capacity for bolt threads and 1/4" to 4" capacity for pipe threads plus nine thread chasers.

TR21A External Set. Includes a large rethreading tool with 5" to 14" diameter pipe thread capacity plus nine thread chasers.

TR25B Internal Set. Includes a knurled handle internal thread chasing tool plus nine chasers.

Metric Thread Chaser Sets

TR20M External Set. Has the same rethreading tool as the TR20C U.S. Set, except it includes six metric chasers (7 pcs).

TR25M Internal Set. Includes a knurled handle thread chasing tool plus six metric chasers (7 pcs).

Thread Chaser Set Components

Chaser Stock No.	Thread Pitch
<i>U.S. Chasers</i>	
TR20-10	4 & 5
TR20-11	6 & 7
TR20-12	8 & 9
TR20-32	8R & 10R
TR20-13	10 & 11
TR20-14	11 1/2 & 12
TR20-15	13 & 14
TR20-16	16 & 18
TR20-17	20 & 24
<i>Metric Chasers</i>	
TR20-25	4.5 & 5mm
TR20-26	3.5 & 4mm
TR20-27	2.5 & 3mm
TR20-28	1.75 & 2mm
TR20-29	1.25 & 1.5mm
TR20-30	.75 & 1mm



WARNING

• Read additional safety precautions on pages M1 to M4.



Thread Restoring Special Purpose

Spindle Rethreading Set

RD8 Spindle Rethreader Set. For most imported or domestic front wheel drive vehicles. Complete with RD8-8 Plastic Box.

- RD7-1 Rethreader Die.** M24 x 1.5
- RD7-2 Rethreader Die.** M24 x 2
- RD7-3 Rethreader Die.** M22 x 1
- RD7-4 Rethreader Die.** M22 x 1.5
- RD7-5 Rethreader Die.** M20 x 1.5
- RD7-6 Rethreader Die.** 3/4"-20
- RD7-7 Rethreader Die.** 13/16"-20
- RD7-9 Rethreader Die.** M20 x 1.25



RD8

Light Truck Spindle Rethreading Set

RD8LT Spindle Rethreading Set. For use on four wheel drive (front and rear axle housings) and medium to heavy-duty two wheel drive trucks (rear axle). Restore axle housing and bearing/hub retention threads. Includes RD8LT2 plastic storage case.

- RD7-23 Rethreading Die.** 2" - 16
- RD7-24 Rethreading Die.** M38 - 1.5
- RD7-25 Rethreading Die.** 1 5/8" - 16
- RD7-26 Rethreading Die.** 1 13/16" - 16
- RD7-27 Rethreading Die.** 2" - 16 Left Hand
- RD7-28 Rethreading Die.** 2 1/8" - 16
- RD7-29 Rethreading Die.** 2 1/4" - 16
- RD8LT-1 Driver.** 2 5/8



RD8LT

Master Spindle Rethreading Set

RD20 Master Spindle Rethreading Set. Repair and renew damaged threads on stub axles and spindles for most vehicles. Dies are manufactured from high tempered steel for strength and durability. Each die size is embossed in the case directly below each die for easy identification and selection. Application chart is included.

- RD7-1 Rethreader Die.** M24 x 1.5
- RD7-2 Rethreader Die.** M24 x 2
- RD7-3 Rethreader Die.** M22 x 1
- RD7-4 Rethreader Die.** M22 x 1.5
- RD7-5 Rethreader Die.** M20 x 1.5
- RD7-6 Rethreader Die.** 3/4"-20
- RD7-7 Rethreader Die.** 13/16"-20
- RD7-9 Rethreader Die.** M20 x 1.25
- RD7-10 Spindle Rethreader Die.** 3/4"-16NF
- RD7-11 Spindle Rethreader Die.** 7/8"-14NF
- RD7-12 Spindle Rethreader Die.** 1"-14NF
- RD7-13 Spindle Rethreader Die.** 1 1/16"-24NF
- RD7-14 Metric Spindle Rethreader Die.** M25-1.5
- RD7-15 Metric Spindle Rethreader Die.** M27-2
- RD7-16 Spindle Rethreader Die.** 27/32"-20NF
- RD7-17 Metric Spindle Rethreader Die.** M16-1
- RD7-18 Metric Spindle Rethreader Die.** M16-1.5
- RD7-19 Spindle Rethreader Die.** M18-1.5
- RD7-20 Metric Spindle Rethreader Die.** M19-1.5
- RD7-21 Metric Spindle Rethreader Die.** M20-1
- RD7-22 Plastic Box**



RD20

TDM13A



Metric Spark Plug Hole Taps

Stock No.	Size
T10100	M10 x 1.00
T12125	M12 x 1.25
T14125	M14 x 1.25
T18150	M18 x 1.50
T2818	7/8"-18 NF

TDM13A Metric Spark Plug Hole Tap Set. Includes T10100 thru T18150 (4 pcs).

SPHR2



SPHR3



Back-Tap® Metric Spark Plug Thread Chasers

Repair spark plug threads without pulling the cylinder head. Slim profile slips inside the spark plug port. Adjusting knob expands the thread chaser to exact thread size. Debris and filings cling to tool instead of falling into cylinder head. Eliminates chance of cross threading by starting the rethreading at the "good" threads at the bottom of the spark plug port. Use with socket or wrench.

SPHR1 14mm Back-Tap® Metric Spark Plug Thread Chaser. Use on most common 14mm spark plug holes.

SPHR2 10mm Back-Tap® Metric Spark Plug Thread Chaser. Use on motorcycle, outboard marine and other small engines plus selected power equipment with 10mm spark plugs.

SPHR3 12mm Back-Tap® Metric Spark Plug Thread Chaser. Use on imported autos, motorcycle, outboard marine and other small engines plus selected power equipment with 12mm spark plugs.

SPHR4 18mm Back-Tap® Metric Spark Plug Thread Chaser. Use on oxygen sensor ports and other 18mm spark plug applications.



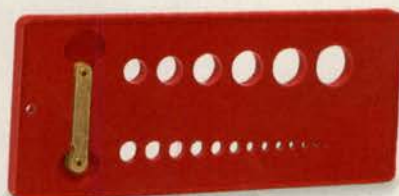
TDC3

Inverted Fitting Set

TDC3 Inverted Fitting Set. For hydraulic brake lines and some gas and oil lines.

- TDC1224 Chaser.** 3/8"-24 thread size.
- TDC1424 Chaser.** 7/16"-24 thread size.
- TDC1620 Chaser.** 1/2"-20 thread size.

TDM101



Thread Gauges

TDM101 Metric Bolt and Thread Gauge. Bolt diameter range of 2.3 to 24mm (with inch/decimal equivalents). Thread gauge sizes: .35 to 3mm.

NOTE: Rethreading taps and dies renew existing threads; they are not for hardened threads; they are for cutting new threads.



Tap Sockets (1/4" - 3/8" Drive)

Stock No.	Square Drive, inches	Fits SAE Size Taps	Fits Metric Size Taps	Shank Diameter, inches	Square Size, inches
TDL8-1	1/4	#1, #2, #3, #4, #5, #6	M1.6, M1.8, M2, M2.2, M2.5, M3, M3.15, M3.5	.141	.110
TDL8-2	1/4	#8	M4	.168	.131
TDL8-3	1/4	#10	M4.5, M5	.194	.152
TDL8-4	1/4	1/4"	M6, M6.3	.255	.191
TDL8-5	3/8	5/16", 7/16"	M7, M8	.323	.242
TDL8-6	3/8	3/8"	M10	.381	.286
TDL8-7	3/8	1/2"	M12, M12.5	.367	.275
TDL8-8	3/8	1/2" NPT	—	.437	.328

TDL8 Tap Socket Set. For use with ratchets and handles. Rubber O-rings hold taps securely in place. Black industrial finish. Includes eight sockets on TDL8-9 Socket Rail and Clips.

TDL3



Tap Sockets (1/2" Drive)

Use in restricted areas where a T-handle won't easily fit. Manufactured to M. C. T. I. Standards. Black industrial finish.

Stock No.	Square Drive, inches	Fits SAE Size Taps	Fits Metric Size Taps	Shank Diameter, inches	Square Size, inches	Length, inches
TDL31	1/2	5/8"	16 mm	.480	.360	2 1/2
TDL32	1/2	1 1/16"	18 mm	.542	.406	2 1/2
TDL33	1/2	3/4"	—	.590	.442	2 1/2

TDL3 Tap Socket Set. Includes TDL31 thru TDL33 (3 pcs).

TD1040



Thread Pitch Gauge

TD1040 Screw Pitch Gauge. Measures U.S. or sharp "V" threads. Includes 18 plated blades for the following thread sizes: 8, 9, 10, 11, 11 1/2, 12, 13, 14, 16, 18, 20, 24, 27, 28, 32, 36, 40, and 44 threads per inch.

Bottoming Taps

TB300C Allows blind holes to be tapped within one thread of bottom of hole.

TB3/8C Tap. 3/8"-16 NC

TB5/16C Tap. 5/16"-18 NC

TB7/16C Tap. 7/16"-14 NC

TB300F NF Bottoming Tap. Allows blind holes to be tapped within one thread of bottom of hole.

TB3/8F Tap. 3/8"-24 NF

TB5/16F Tap. 5/16"-24 NF

TB7/16F Tap. 7/16"-20 NF

TB300C



YA577



YA577L



TDW1000



Ratcheting Tap Wrenches

YA577 T-handle Tap Wrench. For taps up to 1/4". Ratchet in clockwise or counterclockwise direction. 3 3/8" long body, 3 15/16" handle.

YA578 T-handle Tap Wrench. For 1/4" to 1/2" taps. Ratchet in clockwise or counterclockwise direction. 4 3/8" long body, 4 3/4" handle.

YA577L T-handle Tap Wrench. For taps up to 1/4". Ratchet in clockwise or counterclockwise direction. Longer length for greater reach. 10" long body, 4" handle.

YA578L T-handle Tap Wrench. For 1/4" to 1/2" taps. Ratchet in clockwise or counterclockwise direction. Longer length for greater reach. 12" long body, 4 3/4" handle.

TDW1000 Ratcheting Tap and Die Wrench. Cut and renew threads in confined areas. Bi-directional ratcheting action. Holds dies with 1" (25mm) diameter. Includes adaptors for hex and double hex. Also includes adaptors for most popular tap sizes: .250" (6.35mm), .290" (7.36mm), .335" (8.5mm) and .535" (13.58mm).

Plug Taps And Dies

Stock No.	Thread Size	Thread Pitch	Die Type
<i>Tap</i>			
T111	4-36	Right Hand	—
T6310M	M6.33-1	Right Hand	—
T1010M	M10-1	Right Hand	—
T1112M	M11-1.25	Right Hand	—
T1212M	M12-1.25	Right Hand	—
<i>Die</i>			
D021	4-36	Right Hand	5/8" Dbl. Hex
D040	1/4"-18	Right Hand	1" Dbl. Hex
D147M	M4-.7	Right Hand	1" Dbl. Hex
D158M	M5-.8	Right Hand	1" Dbl. Hex
D161M	M6-1	Right Hand	1" Dbl. Hex
D1010M	M10-1	Right Hand	1" Dbl. Hex
D1112M	M11-1.25	Right Hand	1" Dbl. Hex
D1212M	M12-1.25	Right Hand	1" Dbl. Hex
D1412M	M14-1.25	Right Hand	1 1/8" Hex
D1415M	M14-1.5	Right Hand	1 1/8" Hex
D1420M	M14-2	Right Hand	1 1/8" Hex
D1615M	M16-1.5	Right Hand	1 1/4" Hex
D1615ML	M16-1.5	Left Hand	1 1/4" Hex

Stock No.	Thread Size	Thread Pitch	Die Type
D1620M	M16-2	Right Hand	1 1/4" Hex
D1810M	M18-1	Right Hand	1 7/16" Hex
D1815M	M18-1.5	Right Hand	1 7/16" Hex
D1815ML	M18-1.5	Left Hand	1 7/16" Hex
D1825M	M18-2.5	Right Hand	1 7/16" Hex
DR2015M	M20-1.5	Right Hand	2" Round
D2025M	M20-2.5	Right Hand	1 7/16" Hex
D2215M	M22-1.5	Right Hand	1 5/8" Hex
D2215ML	M22-1.5	Left Hand	1 5/8" Hex
D2415M	M24-1.5	Right Hand	1 3/4" Hex
D3015M	M30-1.5	Right Hand	2" Hex



WARNING

• Read additional safety precautions on pages M1 to M4.

See Warranty Information on inside front cover.

Threading

An important feature of the dies in these sets (except GA541 and GAM540) is a small adjusting screw which changes the nominal size .003" under or over to give a tight or loose fit to your thread. Die size 1/4" to 1 1/2" and 7mm to 12mm are a one-piece, 12-point design that can be turned with a 1" socket wrench

Tap and Die Sets

(5/8" socket wrench for 3 to 6mm dies) when working in places where a normal die stock cannot be used. The three largest die stocks (TD10A, TD35, and TD40) are self-centering and adjust to the diameter of the bolt.



U.S. Sets

TD9902A Set. Set includes T125 thru T129 NF Taps; T100, T120 thru T124 NC Taps; T130 NPT Tap; DR019 thru DR043 NF Dies; D110, DR030 thru DR041 NC Dies; TD35 and TD40 Die Stocks; and TD98A Tap Wrench (25 pcs) in plastic storage case.

TD2425 Set. Set includes T100 thru T104 NC Taps; T105 thru T109 NF Taps; T110 NPT Tap, D010 thru D014 NC Dies; D015 thru D019 NF Dies; D021A thru D026 NPT Dies; TD3a and TD10A Die Stocks; TD4, TD50A and TD88A Tap Wrenches; TD1040 Screw Pitch gauge and TDS1 Screwdriver (41 pcs) in plastic storage case.

TD9902 Set. Set includes all items in both TD9902A and TD2425 Sets (66 pcs).

GA541 Set. Set includes T105 thru T109 NF Taps and corresponding dies; T100 thru T104 NC Taps and corresponding dies; T111A thru T116 Machine Screw Taps and corresponding dies; T110 NPT Tap and corresponding die; GA541-1 and GA541-2 Die Stocks; TD4A, TD50 and TD88A Tap Wrenches; TD1040 Screw Pitch Gauge and TDS1 Die Adjusting Screwdriver (41 pcs) in plastic storage case.

TDP6 Set. Set includes T110 thru T134 NPT Taps (1/8" to 1") (6 pcs) in the TDP6-1 Wood Storage Case.

Tap and Die

Tap Stock No.	Die (Adjustable) Stock No.	Die (Non-Adjustable) Stock No.	Thread Size	Die Type
<i>National Fine Threads</i>				
T105	D015	GA541-1428	1/4"-28 NF	1" Double Hex Adjustable or
T106	D016	GA541-51624	5/16"-24 NF	1" Single Hex Non-Adjustable
T107	D017	GA541-3824	3/8"-24 NF	
T108	D018	GA541-71620	7/16"-20 NF	
T109	D019	GA541-1220	1/2"-20 NF	
—	DR019	—	1/2"-20 NF	1 1/2" Round Adjustable
T125	DR035	—	5/16"-18 NF	1 1/2" Round Adjustable
T126	DR036	—	5/8"-18 NF	1 1/2" Round Adjustable
T127	DR037	—	3/4"-16 NF	1 1/2" Round Adjustable
T128	DR042	—	7/8"-14 NF	2" Round Adjustable
T129	DR043	—	1"-14"	2" Round Adjustable
<i>National Coarse Threads</i>				
T100	D010	GA541-1420	1/4"-20 NC	1" Double Hex Adjustable or
T101	D011	GA541-51618	5/16"-18 NC	1" Single Hex Non-Adjustable
T102	D012	GA541-3816	3/8"-16 NC	
T103	D013	GA541-71614	7/16"-14 NC	
T104	D014	GA541-1213	1/2"-13 NC	
—	DR014	—	1/2"-1 NC	1 1/2" Round Adjustable
T120	DR030	—	9/16"-12 NC	1 1/2" Round Adjustable
T121	DR031	—	5/8"-11	1 1/2" Round Adjustable
T122	DR032	—	3/4"-10 NC	1 1/2" Round Adjustable
T123	DR040	—	7/8"-9 NC	2" Round Adjustable
T124	DR041	—	1"-8 NC	2" Round Adjustable



Tap Stock No.	Die (Adjustable) Stock No.	Die (Non-Adjustable) Stock No.	Thread Size	Die Type
<i>Machine Screw Threads</i>				
T111A	D021A	GA541-440	4-40	5/8" Double Hex Adjustable or
T112	D022	GA541-632	6-32	5/8" Single Hex Non-Adjustable
T113	D023	GA541-832	8-32	
T114	D024	GA541-1024	10-24	
T115	D025	GA541-1032	10-32	
T116	D026	GA541-1224	12-24	
<i>Pipe Threads</i>				
T110	—	GA541-1827	1/8"-27 NPT	1" Double Hex Adjustable
—	—	D020	1/8"-27 NPT	1" Double Hex Non-Adjustable
T130	—	—	1/4"-18 NPT	—
—	—	DR033	1/4"-18 NPT	1 1/2" Round Non-Adjustable
T131	—	—	3/8"-18 NPT	—
T132	—	—	1/2"-14 NPT	—
T133	—	—	3/4"-14 NPT	—
T134	—	—	1"-11 1/2" NPT	—

Tap and Die Sets

An important feature of the dies in these sets (except GA541 and GAM541) is a small adjusting screw which changes the nominal size .003" under or over to give a tight or loose fit to your thread. Die size 1/4" to 1/2" and 7mm to 12 mm are a one-piece, 12-point design that can be turned with a 1" socket wrench

(5/8" socket wrench for 3 to 6mm dies) when working in places where a normal die stock cannot be used. The three largest die stocks (TD10A, TD35, and TD40) are self-centering and adjust to the diameter of the bolt. U.S. Fed. Spec. GGG-T-60 applies to taps; GGG-D-296B applies to dies.

GAM541



Metric Sets

TDM99117A Set. Set includes T1412M thru T2430M Metric taps; DR1412M thru DR2430M Metric Dies; TD35 and TD40 Die Stocks; TD98A Tap Wrench and a can of thread cutting fluid (25 pcs) in a plastic storage case. Similar in appearance TD9902A Set.

TDM117A Set. Set includes T305M thru T1217M Metric Taps; D305M thru D1217M Metric Dies; T110M BSP Tap; D020M BSP Die; TD3A and TD10A Die Stocks; TD4A, TD50 and TD88A Tap Wrenches; TDM100 Metric Thread Pitch Gauge; and TDS1 Die Adjusting Screwdriver (41 pcs) in plastic storage case.

TDM99117 Set. Includes all items in both TDM99117A and TDM117A Sets (66 pcs).

GAM541 Set. 40-piece set features 1" single hex non-adjustable dies from 3 to 12mm, a 1/8"-28BSP die plus taps in the same sizes. Also includes a die stock, two T-handle tap wrenches, a thread pitch gauge, a drill/tap chart, and a midjet screwdriver, all in a blow-molded case.

U.S. / Metric Combination Set

TD117 Set. Includes all components of the TD117 U.S./Metric Set plus 41-piece high speed steel drill bit set in fractional, metric, wire gauge and letter sizes and five spiral screw extractors. Each drill bit matches to corresponding tap size for correct fit. Set offers a complete assortment of high-carbon steel taps and dies in fractional and metric sizes. Tap/drill charts and tool diagrams included. Set packaged in plastic case.

TD500 Set. Set includes T105 thru T109 NF Taps; T100 thru T104 NC Taps; T111A thru T116 Machine Screw Taps; T305M thru T1217M Metric Taps; T110M BSP Tap; D015 thru D019 NF dies; D010 thru D014 NC dies; D021A thru D026 Machine Screw dies; D305M thru D1217M Metric dies; D020M BSP Die; TD3A and TD10A Die Stocks; TD4, TD10A and TD88A Tap Wrenches; TD1040 and TDM100 Screw Pitch Gauges; and TDS1 Die Adjusting Screwdriver (76 pcs) in TD117-1 Plastic Storage Case.



TD500



TD117

Set Components

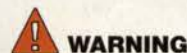
Tap Stock No.	Die Stock No.	Thread Size	Die Type
<i>Metric Threads</i>			
T305M	D305M	M3-.50	5/8" Double Hex Adjustable
T407M	D407MA	M4-.70	5/8" Double Hex Adjustable
T4075M	D4075M	M4-.75	5/8" Double Hex Adjustable
T508M	D508MA	M5-.80	5/8" Double Hex Adjustable
T509M	D509M	M5-.90	5/8" Double Hex Adjustable
T610M	D610MA	M6-1.00	5/8" Double Hex Adjustable
T710M	D710M	M7-1.00	1" Double Hex Adjustable
T810M	D810M	M8-1.00	1" Double Hex Adjustable
T812M	D812M	M8-1.25	1" Double Hex Adjustable
T910M	D910M	M9-1.00	1" Double Hex Adjustable
T912M	D912M	M9-1.25	1" Double Hex Adjustable
T1012M	D1012M	M10-1.25	1" Double Hex Adjustable
T1015M	D1015M	M10-1.50	1" Double Hex Adjustable
T1115M	D1115M	M11-1.50	1" Double Hex Adjustable
T1215M	D1215M	M12-1.50	1" Double Hex Adjustable
T1217M	D1217M	M12-1.75	1" Double Hex Adjustable
T1412M	DR1412M	M14-1.25	1 1/2" Round Adjustable
T1415M	DR1415M	M14-1.5	1 1/2" Round Adjustable
T1420M	DR1420M	M14-2	1 1/2" Round Adjustable
T1615M	DR1615M	M16-1.5	1 1/2" Round Adjustable
T1620M	DR1620M	M16-2	1 1/2" Round Adjustable
T1815M	DR1815M	M18-1.5	1 1/2" Round Adjustable
T1825M	DR1825M	M18-2.5	1 1/2" Round Adjustable
T2025M	DR2025M	M20-2.5	1 1/2" Round Adjustable
T2215M	DR2215M	M22-1.5	1 1/2" Round Adjustable
T2420M	DR2420M	M24-2	1 1/2" Round Adjustable
T2430M	DR2430M	M24-3	1 1/2" Round Adjustable
T110M	D020M	1/8"-28 BSP	1" Double Hex Non-Adjustable



DR1415M

Accessories

Stock No.	Description/Application
<i>Die Stock</i>	
GA541-1	For 5/8" Single Hex Dies
TD3A	For 5/8" double hex dies
GA26	Adjustable for 1" Single Hex Dies
TD10A	Self-Centering for 1" double hex dies
TD35	Self-centering for 1 1/2" Diameter Round Dies
TD40	Self-centering for 2" Diameter Round Dies
<i>Tap Wrenches</i>	
TD4	Four-Jaw, for 0 to 1/4" taps
TD6	Two-jaw, for 1/16"-1/4" Taps
TD7	Two-jaw, for 1/4"-1/2" Taps
TD50	Four-Jaw, for 1/4" to 1/2" (M7-1.00 to M12-1.75) taps
TD88A	Clamp Type, for 0 to 1/2" (M3-0.50 to M12-1.75) taps
TD98A	Clamp Type, for 0"-1" (M7-10 to M24-3.0) Taps
<i>Thread Pitch Gauges</i>	
TD1040	U.S.
TDM100	Metric
<i>Screwdriver</i>	
TDS1	For Adjusting Dies



WARNING

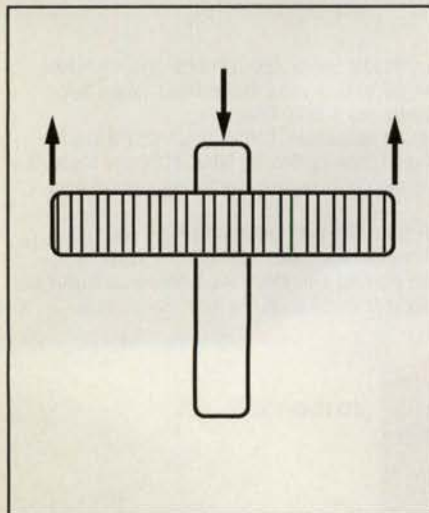
Read additional safety precautions on pages M1 to M4.



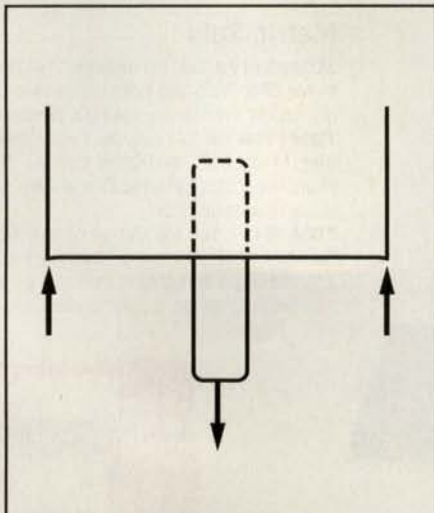
Snap-on® Pullers The ABC's of Selecting the Right Puller

A. What Type of Puller Do I Want to Use?

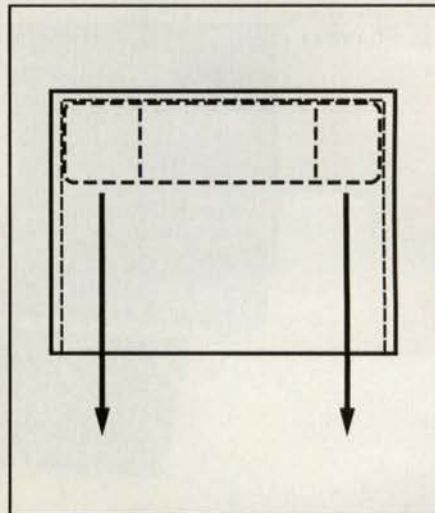
Will it Be the Combination that Works the Best?



Removing a Gear, Bearing, Pulley, or Other Component from a Shaft



Pulling a Shaft Out of a Housing or Bore



Removing a Bearing or Bushing from a Blind Hole

Tools to Use

• Jaw-Type Puller

2- or 3-jaw style, with 3-jaw being the best choice. Manual or hydraulic with outside jaw positions.

• Push-Pull Puller

Use male or female adaptors to thread into tapped holes on components.

• Slide Hammer Puller

Use on light-duty applications. For use with attachments.

• Bar-Type Puller with Bearing Separator

Bar type with side rods threaded into bearing separator provides "knife edge" to get behind component or when there is not a good gripping edge.

Tools to Use

• Push-Pull Puller

Use male or female adaptors.

• Bar-Type Puller with Bearing Separator

Use when housing lacks sufficient surface for puller side rods to bear against.

• Slide Hammer Puller

Use on light-duty applications. For use with attachments.

• Slide Hammer Puller

Use with male or female adaptors. See page 333 for a full listing of compatible adaptors.

Tools to Use

• Jaw-Type Puller

For inside jaw positions (inside pulls), a manual or hydraulic jaw-type puller can be used with pressure screw or slide hammer variations.

• Expanded Collet Puller

The inside diameter should range between 1/4" and 7". Pulling can be done with bridge, bar-type yokes, or slide hammers. See page 334 for full information.

• Bearing Adaptors with Slide Hammer Puller

CJ127A, CJ128A, and CJ137 Bearing Adaptors with CJ97-3A Slide Hammer should be used in this application.

• Bar-Type Puller with Bearing Separator

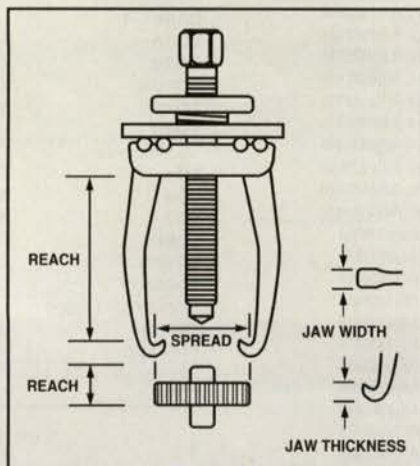
Bar type with side rods threaded into bearing separator provides "knife edge" to get behind components or when there is not a good gripping edge.

B. Determine the "Reach" and "Spread" Needed

The puller's reach must equal or exceed the same distance on the part. The puller's spread is the width of the part.

C. Estimate the Puller Tonnage

Generally, if you already have the correct "reach and spread," you will usually have the proper tonnage. If in doubt, use the next larger size.



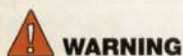
General Rule to Choose Pullers

Manual Pullers

Pressure screw should be at least half the diameter of the shaft on the pulling/pushing job.

Hydraulic Pullers

Maximum tonnage capacity (tons) should be 8 to 10 times the diameter (in inches) of the shaft to be pulled or pushed.



WARNING



• Read additional safety precautions on pages 231 and M1 to M4.

General Purpose Interchangeable Pullers

Light Duty

Builds These Pullers

Stock No.	Puller Type	Maximum Reach, inches	Outside Spread, inches	Inside Spread, inches
CG240	2-Jaw	2 1/2	0-3	7/8-3 1/4
CG240H	2-Jaw	2 1/2	0-3	7/8-3 1/4
CG243	3-Jaw	2 1/2	0-3	7/8-3 1/4
CG243H	3-Jaw	2 1/2	0-3	7/8-3 1/4

CG2400B Light-Duty Set. This versatile set provides 2 or 3-jaw pulling with pressure screw or slide hammer options. Interchange parts to build any of the five puller combinations. Components are stored in KRA104 Metal Box.

CG2400B



The CG2400B delivers:

- Up to 2 1/2 tons of pulling power
- 3" diameter capacity for outside pulls

Medium Duty

From the CG1500HY Set, which includes the 6-ton hydraulic unit (CG6223), you can build 21 puller combinations. Even without the hydraulics, 14 puller combinations can be built. The manual components are also included in the heavy-duty (CG2500 Series) sets.

The CG1500 Series delivers:

- Up to 7 1/2 tons of pulling power
- 4 1/2" diameter capacity for outside pulls
- From 3/4" to 8" diameter capacity for inside pulls

CG1500HY



Heavy Duty

The Big CG2510BHY Set builds 45 different pullers with dozens of different pulling variations—all from 40 components and the 10-ton hydraulic set included. Even without the hydraulics (the CG2500BS Manual Set) you can build 32 separate pullers. Or just add the Snap-on® CG6223 6-Ton Hydraulic Power Kit and you've added seven different puller combinations to each set. See individual pullers on pages 320, 321, 322, and 323. See pages 328 and 329 for puller parts reference.

Builds These Pullers

Stock No.	Puller Type	Maximum Reach, inches	Outside Spread, inches	Inside Spread, inches
CG654HY	Hydraulic, 2-Jaw	3	0-4 1/2	1 1/2-3 1/2
CG655HY	Hydraulic, 3-Jaw	3	0-4 1/2	1 1/2-3 1/2
CG270	2-Jaw	5 1/2	0-8 1/2	2 1/2-7
CG270H	2-Jaw	5 1/2	0-8 1/2	2 1/2-7
CG270S	Special Grip, 2-Jaw	5 1/2	0-8 1/2	2 1/2-7
CG273	3-Jaw	5 1/2	0-8 1/2	2 1/2-7
CG273H	3-Jaw	5 1/2	0-8 1/2	2 1/2-7
CG280	Long Jaw, 2-Jaw	8	0-10	3-8
CG283	Long Jaw, 3-Jaw	8	0-10	3-8
CG274HY	Hydraulic, 2-Jaw	8 3/4	10	3-8
CG275HY	Hydraulic, 3-Jaw	8 3/4	0-10	3-8

CG2510BSBHY Manual/Hydraulic Set. Includes 40 interchangeable components, including the CG1224 10-ton Hydraulic Power Kit. All components are displayed on a VE213 Tool Control Board, which is mounted inside a KRA270B Wall Cabinet.

CG1224 10-ton Power Kit. 10-ton. Converts CG270, CG273, CG280, and CG283 Manual Pullers (on Tool Control Panel "A") and CG1700/CG2500B Puller Sets to hydraulic power.

VE213 Control Board. Panel "A" is designed to hold the components for CG2500BS Interchangeable Puller Set (6, 7 1/2, 10, and 12 1/2-ton capacity).

CG2510BSHY Manual/Hydraulic Set. Same as CG2510BSBHY Set mounted on a VE213 Tool Control Board. Does not include the wall cabinet.

CG2510BHY Manual/Hydraulic Set. Same as CG2510BSBHY Set except it doesn't include either the Tool Control Board or the Wall Cabinet.

CG2500BSB Manual Set. This is the CG2510BSBHY Set less the 10-ton hydraulic power kit components. Tool Control Board for this set is VE113B; Wall Cabinet is KRA270B.

VE113B Control Board. Panel "A" is designed to hold the components for CG2500BS Interchangeable Puller Set (6, 7 1/2, 10, and 12 1/2-ton capacity).

CG2500BS Manual Set. Same as CG2500BSB Set mounted on a VE113B Tool Control Board. Does not include the KRA270B Wall Cabinet.

CG2500B Manual Set. Same as CG2500BSB Set, except it doesn't include either the Tool Control Board or the Wall Cabinet.

CG2500BB Manual Set. Same as CG2500BSB Set, except it doesn't include either the Tool Control Board or the Wall Cabinet. Instead, all components are stored in KRA109 Metal Box.

Builds These Pullers

Stock No.	Puller Type	Maximum Reach, inches	Outside Spread, inches	Inside Spread, inches
CG250	2-Jaw	3	0-4 1/2	1 1/2-3 1/2
CG250H	2-Jaw	3	0-4 1/2	1 1/2-3 1/2
CG250HL	Long Jaw, 2-Jaw	6	0-8 1/2	3/4-8
CG253	3-Jaw	3	0-4 1/2	1 1/2-3 1/2
CG253H	3-Jaw	3	0-4 1/2	1 1/2-3 1/2
CG253L	Long Jaw, 2-Jaw	6	—	3/4-8

CG1500HY Puller Set. Includes 15 interchangeable parts and the CG6223 6-ton Hydraulic Power Kit.

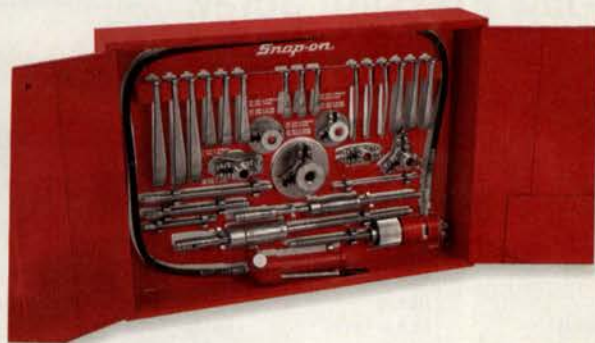
CG1500 Puller Set. This is the CG1500HY Set but it does not include the 6-ton capacity power components.

CG6223 Hydraulic Conversion Set. 6-ton. Converts CG250 and CG253 Manual Pullers and CG1500 Puller Set to hydraulic power.

The CG2510 and CG2500 Series delivers:

- Up to 12 1/2 tons of pulling power
- 10" diameter capacity for outside pulls
- From 3/4" to 8" diameter capacity for inside pulls

CG2510BSBHY



CG1700

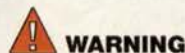


The CG1700 Set delivers:

- Up to 12 1/2 tons of pulling power
- 10" diameter capacity for outside pulls
- From 2 1/2" to 8" diameter for inside pulls

CG1700 Manual Gear Set. Set allows rapid assembly of a variety of 10-ton and 12 1/2-ton manual 2 and 3-jaw pullers. CG270, CG270H, CG270S, CG273, CG273H, CG280 and CG283 Pullers can be assembled from this set. Convert to smooth, easy hydraulic operation with the optional CG1224 10-ton Hydraulic Conversion Kit. Set packaged in CG1700-1 Storage Case.

CG270SETX Long Puller Jaw Set. Adds extra reach capability to any CG270 or CG280 Series puller, the CG1700 Set and any CG2500B Series set. Includes (3) CG270-12 Extra Long Jaws and (1) CG270-13 Pressure Screw Adaptor.



WARNING

- Read additional safety precautions on pages M1 to M4.



Pullers



2-ton Capacity (1.8 t)

Stock No.	Maximum Reach, inches (mm)	Maximum Spread, inches (mm)	Pressure Screw Size, inches	Jaw Thickness, inches (mm)	Jaw Width, inches (mm)
CG240	2 1/2 (64)	Inside 7/8-3 1/4 (22-83) Outside 3 (76)	3/8-16 x 5 1/16	3/16 (5)	3/8 (10)
CG240L	3 1/2 (89)	7/8-3 3/4 (25-95)	3/8-16 x 6 1/16	3/16 (5)	3/8 (10)

6-ton Capacity (5.4 t)

CG250	3 (76)	1 1/2-3 1/2 (38-89)	5/8-18 x 6 7/8	1/4 (6)	3/4 (19)
CG250A	3 (76)	1 1/2-3 1/2 (38-89)	5/8-18 x 6 7/8	1/4 (6)	3/4 (19)

10-ton Capacity (9.1 t)

CG270	5 1/2 (140)	2 1/2-7 1/2 (64-178)	8 1/2 (216)	3/4-16 x 9 13/16	1/4 (6)	1 5/16 (24)
CG270A*	5 1/2 (140)	2 1/2-7 1/2 (64-178)	8 1/2 (216)	3/4-16 x 9 13/16	1/4 (6)	1 5/16 (24)
CG272	5 1/2 (140)	2 1/2-7 1/2 (64-178)	8 1/2 (216)	3/4-16 x 9 13/16	1/4 (6)	1 5/16 (24)
2-Jaw Lengths	8 3/4 (222)	3-8 (76-203)	10 (254)	3/4-16 x 12 1/8	1/4 (6)	1 5/16 (24)
CG270S	5 1/2 (140)	2 1/2-7 1/2 (64-178)	8 1/2 (216)	3/4-16 x 9 13/16	1/4 (6)	1 5/16 (24)
CG280	8 3/4 (222)	3-8 (76-203)	10 (254)	3/4-16 x 12 1/8	1/4 (6)	1 5/16 (24)
CG284**	15 (381)	4 3/4-11 1/2 (121-292)	13 3/4 (349)	3/4-16 x 18 15/16	3/8 (10)	1 (25)

20-ton Capacity (18.1 t)

CG300	9 1/2 (241)	3 1/2-10 (89-254)	12 (305)	1-14 x 15	7/16 (11)	1 1/4 (32)
CG305	14 3/8 (365)	5-13 (127-330)	16 (406)	1-14 x 19	9/16 (14)	

*Includes CG1 Pulling Plate. **Includes pressure screw extension.

3-Jaw Pressure Screw



2 1/2-ton Capacity (2.3 t)

Stock No.	Maximum Reach, inches (mm)	Maximum Spread, inches (mm)	Pressure Screw Size, inches	Jaw Thickness, inches (mm)	Jaw Width, inches (mm)
CG243	2 1/2 (64)	Inside 7/8-3 1/4 (22-83) Outside 3 (76)	3/8-16 x 5 1/16	3/16 (5)	3/8 (10)
CG243L	3 1/2 (89)	7/8-3 3/4 (25-95)	3/8-16 x 6 1/16	3/16 (5)	3/8 (10)

6-ton Capacity (5.4 t)

CG253L	6 (152)	3/4-8 (19-203)	5/8-18 x 6 7/8	7/32 (5)	5/16 (8)
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7 1/2-ton Capacity (6.8 t)

CG253	3 (76)	1 1/2-3 1/2 (38-89)	4 1/2 (114)	5/8-18 x 6 7/8	1/4 (6)	3/4 (19)
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12 1/2-ton Capacity (11.3 t)

CG273	5 1/2 (140)	2 1/2-7 1/2 (64-178)	8 1/2 (216)	3/4-16 x 9 13/16	1/4 (6)	1 5/16 (24)
CG273A	5 1/2 (140)	2 1/2-7 1/2 (64-178)	8 1/2 (216)	3/4-16 x 9 13/16	1/4 (6)	1 5/16 (24)
CG283	8 3/4 (222)	3-8 (76-203)	10 (254)	3/4-16 x 12 1/8	1/4 (6)	1 5/16 (24)
CG285	15 (381)	4 3/4-11 1/2 (121-292)	13 3/4 (254)	3/4-16 x 18 15/16	3/8 (10)	1 (25)

20-ton Capacity (18.1t)—Combination 2 and 3 Jaw

CG343	9 1/2 (241)	—	12 (305)	1-14 x 15	7/16 (11)	1 1/4 (32)
CG348	14 (355)	—	15 (381)	1-14 x 19	9/16 (14)	1 1/4 (32)
CG325	19 (482)	—	20 (508)	1 3/8-8 x 21 11/16	1 1/8 (29)	1 1/2 (38)

Pulling Plate

CG1. Ideal where there is no gripping surface for the puller alone. Attach plate to item being pulled—puller clamps behind the plate. Includes four each of the following screws: 1/4"-20 x 3/4" and 1/4"-28 x 1". Plate has a 3 5/8" diameter.



Flat Points

CG250-21 Flat Point. Fits CG250 Series pullers.
CG270-21 Flat Point. Fits CG270 and CG280 Series pullers.
CG300-21 Flat Point. Fits CG300 and CG305 Series pullers.
CG325-21 Flat Point. Fits CG325 Series pullers.
CG70 Flat Point Set. Includes CG270-21, CG300-21 and CG325-21 Flat Points.

2-Jaw Slide Hammer



2-ton Capacity (1.8 t)-1 1/16 lb. Hammer

Stock No.	Maximum Reach, inches (mm)	Maximum Spread, inches (mm)		Slide Screw Size, inches	Jaw Thickness, inches (mm)	Jaw Width, inches (mm)
		Inside	Outside			
CG240H	2 1/2 (63)	7/8-3 1/4 (22-82)	3 (76)	3/8-16 x 12 5/8	3/16 (5)	3/8 (10)
CG240HL	3 1/2 (88)	7/8-3 3/4 (25-95)	4 (102)	3/8-16 x 12 5/8	3/16 (5)	3/8 (10)

6-ton Capacity (5.4 t) - 2 1/8 lb. Hammer

CG250C*	3 (76)	1 1/2-3 1/2 (38-89)	4 1/2 (114)	5/8-18 x 18 1/16	1/4 (6)	3/4 (19)
CG250H	3 (76)	1 1/2-3 1/2 (38-89)	4 1/2 (114)	5/8-18 x 18 1/16	1/4 (6)	3/4 (19)
CG250HL	6 (152)	3/4-8 (19-203)	—	5/8-18 x 18 9/16	7/32 (5)	5/16 (8)

10-ton Capacity (9.1 t) - 3 1/2 lb. Hammer

CG270C**	5 1/2 (140)	2 1/2-7 1/2 (64-178)	8 1/2 (216)	3/4-16 x 23 3/8	1/4 (6)	1 5/16 (24)
CG270H	5 1/2 (140)	2 1/2-7 1/2 (64-178)	8 1/2 (216)	3/4-16 x 23 3/8	1/4 (6)	1 5/16 (24)

*Includes CG250H Puller, CG1 Pulling Plate, and Pressure Screw.

**Includes CG1 Pulling Plate and Pressure Screw.

3-Jaw Slide Hammer



2 1/2-ton Capacity (2.3 t)—1 1/16 lb. Hammer

Stock No.	Maximum Reach, inches (mm)	Maximum Spread, inches (mm)		Slide Screw Size, inches	Jaw Thickness, inches (mm)	Jaw Width, inches (mm)
		Inside	Outside			
CG243H	2 1/2 (64)	7/8-3 1/4 (22-83)	3 (76)	3/8-16 x 12 5/8	3/16 (5)	3/8 (10)
CG243HL	3 1/2 (89)	7/8-3 3/4 (22-95)	4 (102)	3/8-16 x 12 5/8	3/16 (5)	3/8 (10)

7 1/2-ton Capacity (6.8 t)—2 1/8 lb. Hammer

CG253H	3 (76)	1 1/2-3 1/2 (38-89)	4 1/2 (114)	5/8-18 x 18 1/16	1/4 (6)	3/4 (19)
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12 1/2-ton Capacity (11.3 t)—3 1/2 lb. Hammer

CG273C*	5 1/2 (140)	2 1/2-7 1/2 (64-178)	8 1/2 (216)	3/4-16 x 23 3/8	1/4 (6)	1 5/16 (24)
CG273H	5 1/2 (140)	2 1/2-7 1/2 (64-178)	8 1/2 (216)	3/4-16 x 23 3/8	1/4 (6)	1 5/16 (24)

*Includes CG273H Puller, CG1 Pulling Plate, and Pressure Screw.

Special Grip Jaws

CG270-3S. Engineered for twice the gripping surface area of standard jaws.

Can be used with any of the CG270 and CG273 Series Pressure Screw and Slide Hammer Pullers.



WARNING

- Pullers and parts under stress can break.
Wear safety goggles while using pullers. Screen the puller from yourself and bystanders. Use the largest size puller possible to do the job. Use a three jaw puller where possible. Inspect puller; do not use puller with worn or damaged parts. Make sure puller is fully engaged and squarely seated. Broken parts can cause injury.
- Heating puller jaws can change their strength.
Do not heat jaws of puller.
Weakened jaws can break and cause injury.
- Hammering on puller jaws can cause damage.
Hammer only on curved head of pressure screw.
Broken parts can cause injury.
- Hand can get caught between slide hammer and hammer stop.
Keep hand away from front and rear of slide hammer.
Hand injury can be caused by slide hammer.

- Damaged or loose hydraulic lines can leak or burst.
Inspect hoses; do not use hoses with cuts, splits, or cracks. Tighten hydraulic connections.
Hydraulic leak can cause injury.
- Be sure that pressure screw threads are cleaned and well lubricated when using impact tools on pullers.
- Always use protective tip or removable point to prevent pressure screw from mushrooming or splitting.
- Always maintain a proper fluid level in hydraulic pump.
- Always use a pressure gauge with hydraulic pullers.
- Never keep pressure on a hydraulic ram. When job is finished, immediately release ram pressure.
- Use blind hole bearing pullers rather than torches, chisels, screwdrivers, hammers, prybars, etc. A blind hole puller provides 360° of steady, even pulling power.
- Read additional safety precautions on pages M1 to M4.

Pullers 2 and 3 Jaw Hydraulic

6-ton Capacity (5.4 t)

Stock No.	Maximum Reach, inches (mm)	Maximum Spread, inches (mm)		Pressure Screw Size, inches	Jaw Thickness, inches (mm)	Jaw Width, inches (mm)
		Inside	Outside			
CG654HY Hydraulic, 2-Jaw	3 (76)	1 1/2-3 1/2 (38-89)	4 1/2 (114)	5/8-11 x 13 3/4	1/4 (6)	3/4 (19)
CG655HY* Hydraulic, 3-Jaw	3 (76)	1 1/2-3 1/2 (38-89)	4 1/2 (114)	5/8-11 x 13 3/4	1/4 (6)	3/4 (19)

Included with hydraulic ram (see chart on page 328).

*To convert to manual power, use pressure screw, adjusting nut, and yoke from either CG250 or CG253 Pullers.



CG277HY

CG274HY



10-ton Capacity (9.1 t)

Stock No.	Maximum Reach, inches (mm)	Maximum Spread, inches (mm)		Pressure Screw Size, inches	Jaw Thickness, inches (mm)	Jaw Width, inches (mm)
		Inside	Outside			
CG274HY Two Jaw Model	8 3/4 (222)	3-8 (76-203)	10 1/2 (266)	3/4-10 x 16 1/4	1/4 (6)	15/16 (24)
CG275HY Three Jaw Model	8 3/4 (222)	3-8 (76-203)	10 (254)	3/4-10 x 16 1/4	1/4 (6)	15/16 (24)
CG276HY Two Jaw Model	15 (381)	4 3/4-11 1/2 (121-292)	13 3/4 (349)	3/4-10 x 23 3/8	3/8 (9)	1 (25)
CG277HY* Three Jaw Model	15 (381)	4 3/4-11 1/2 (121-292)	13 3/4 (349)	3/4-10 x 23 3/8	3/8 (9)	1 (25)

Included with hydraulic ram (see chart at on page 328).

*To convert to manual power, use pressure screw, adjusting nut, and yoke from either CG270 or CG273 Pullers.

20-ton Capacity (18.1 t)—Combination 2 and 3 Jaw

Stock No.	Maximum Reach, inches (mm)	Maximum Spread, inches (mm)		Pressure Screw Size, inches	Jaw Thickness, inches (mm)	Jaw Width, inches (mm)
		Inside	Outside			
CG400HYA*	9 1/2 (241)	13 (330)	1 1/8-8 x 20 1/2	7/16 (11)	1 1/4 (32)	
CG400HYA2S	This is CG400HYA with two stage pump.					
CG400	This is CG400HYA less hydraulic ram and pump.					
CG343	Manual version of CG400HYA. Includes CG343-1 4" Plug and CG300-1 1"-14 Pressure Screw in place of ram and pump.					
CG343-1	4" Plug					
CG300-1	1"-14 Pressure Screw					
CG405HYA*	14 (355)	—	15 (381)	1 1/8-8 x 20 1/2	9/16 (14)	1 1/4 (32)
CG405HYA2S	This is CG405HYA with two stage pump.					
CG405	This is CG405HYA less hydraulic ram and pump.					
CG348	Manual version of CG405HYA. Includes CG343-1 4" Plug and CG305-8 1"-14 Pressure Screw in place of ram and pump.					
CG425HYA*	19 (482)	—	20 (508)	1 1/8-8 x 20 1/2	1 1/8 (29)	1 1/2 (38)
CG425HYA2S	This is CG425HYA with two stage pump.					
CG425	This is CG425HYA less hydraulic ram and pump.					
CG325	Manual version of CG425HYA. Includes 1 3/8"-8 x 20 1 1/16" pressure screw in place of pump, ram, washer adaptor, ram adaptor, and cap screws.					

*Included with hydraulic ram (see chart at on page 328).

CG400HYA

CG343



CG425HYA



CG405HYA



CG560HY



50-ton Capacity (45.36 t)—Combination 2 and 3 Jaw

Stock No.	Maximum Reach, inches (mm)	Maximum Spread, inches (mm)		Pressure Screw Size, inches	Jaw Thickness, inches (mm)	Jaw Width, inches (mm)
		Inside	Outside			
CG560HY*	28 (711)	—	44 (1,118)	1 5/8-5 1/2 x 30	1 1/16 (36)	2 (51)
CG560HY2S	This is CG560HY with two stage pump.					

*Included with hydraulic ram.

Manual Tapped Hole Sets

10-ton Capacity (9.1 t), Tapped Hole

Stock No.	Maximum Reach, inches (mm)	Maximum Spread, inches (mm)	Pressure Screw Size, inches	Side Rods (2 Each)	Side Rod Adaptors (2 Each)
CJ840C	33 (838)	2 5/8"-11 5/8" (67-295)	1"-14 x 33"	5/8"-18	1/2"-20, 1/2"-13, 3/4"-16
Complete Puller Set	Side rods in set are provided 2 each in 5", 10", and 20" lengths.				

CJ84C
Basic Puller Set

This is the CJ840C less all adaptors and side rods except 5/8"-18 x 10".

Bar-Type Pullers



Push-Pull Sets



6-ton Capacity (5.4 t), Push-Pull

Stock No.	Maximum Reach, inches (mm)	Maximum Spread, inches (mm)	Pressure Screw Size, inches	Pressure Screw Adaptor	Side Rods	Side Rod Adaptors
CG706	14 1/8	2 5/8"-7 1/2"	5/8"-18 x 10"	—	7/16"-14 x 8"	7/16"-14f x 5/8"-18m
Push-Pull Set	(358)	(67-191)			(4 each)	

10-ton Capacity (9.1 t), Push-Pull

Stock No.	Maximum Reach, inches (mm)	Maximum Spread, inches (mm)	Pressure Screw Size, inches	Pressure Screw Adaptor	Side Rods	Side Rod Adaptors
CG710	17 5/8	3 1/16-9 3/8	3/4"-16 x 12"	3/4"-16f x 5/8"-18m	(2) 5/8"-18 x 8"	—
Push-Pull Set	(448)	(90-238)			(2) 5/8"-18 x 12"	—



Bar-Type Hydraulic / Manual Sets



6-ton Capacity (5.4 t), Hydraulic

Stock No.	Maximum Reach, inches (mm)	Maximum Spread, inches (mm)	Pressure Screw Size	Pressure Screw Adaptor	Side Rods	Side Rod Adaptors
CG656HY*	14 1/8	2 5/8"-7 1/2"	5/8"-11 x 13 3/4"	5/8"-11f x 5/8"-18m	7/16"-14 x 8"	7/16"-14f x 5/8"-18m
Hydraulic Set	(358)	(67-191)				
CG656	This is CG656HY Set less the hydraulic components.					

10-ton Capacity (9.1 t), Hydraulic

Stock No.	Maximum Reach, inches (mm)	Maximum Spread, inches (mm)	Pressure Screw Size	Pressure Screw Adaptor	Side Rods	Side Rod Adaptors
CG150HY*	17 5/8	3 1/16-9 3/8	3/4"-10 x 16 1/4"	3/4"-10f x 5/8"-18m	5/8"-18 x 8"	—
Hydraulic Set	(448)	(90-238)	—	3/4"-10f x 3/4"-16m	5/8"-18 x 12"	—
CG150	This is CG150HY Set less the hydraulic components.					

20-ton Capacity (18.1 t), Hydraulic

Stock No.	Maximum Reach, inches (mm)	Maximum Spread, inches (mm)	Pressure Screw Size	Pressure Screw Adaptor	Side Rods	Side Rod Adaptors
CG450HYA*	24	6-15	1 1/8"-8 x 20 1/2"	—	7/8"-14 x 20"	7/8"-14f x 7/8"-14m
Hydraulic Set	(610)	(152-381)			7/8"-14 x 10"	7/8"-14f x 5/8"-18m
CG450HYA2S*	This is CG450HYA Set with two-stage pump.					
CG450	This is CG450HYA Set less the hydraulic components.					
CG350*	This is the manually operated version of the CG450.					

35-ton Capacity (31.7 t), Hydraulic

Stock No.	Maximum Reach, inches (mm)	Maximum Spread, inches (mm)	Pressure Screw Size	Pressure Screw Adaptor	Side Rods	Side Rod Adaptors
CG750HY*	26	8 1/2-17	1 3/8"-8 x 25"	1 3/8"-8f x 7/8"-14m	1"-14 x 20"	1"-14f x 7/8"-14m
Hydraulic Set	(660)	(216-432)			1"-14 x 10"	7/8"-14f x 3/4"-16m
CG750HY2S	This is CG750HY Set with two-stage pump.					
CG750	This is CG750HY Set less the hydraulic components.					

*Included with hydraulic ram (see chart on page 328).



WARNING

• Read additional safety precautions on pages M1 to M4.

See Warranty Information on inside front cover.



Pullers

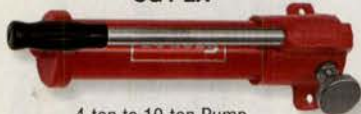
Features of Two-Stage Hydraulic Pumps

- Two-stage design will advance 20-ton to 50-ton rams in the low pressure stage in less than 1/3 the strokes required on other models.
- CG520 Ram extends in 60 to 70 strokes.

Hydraulic Power Units

- CG420 Ram extends in 17 to 19 strokes.
- When high pressure is required, the low pressure stage automatically kicks out to leave the high pressure stage to do the work.

CG4-2A



4-ton to 10-ton Pump
5 fluid ounce capacity.

CG420 2A



One Stage 20-, 35-, 50-ton Pump
24 fluid ounce capacity.

CG420-2S



Two Stage 20-, 35-, 50-ton Pump
24 fluid ounce capacity.

CG650



6-ton Ram

CG420-1A



20-ton Ram

CG520



50-ton Ram

CG222 4 Ton Set

Includes:

- CG120-3-1 Hose
- CG120-4 Coupler Set
- CG220 4 Ton Ram
- CG220-13 Pressure Screw
- CG4-2A 4 to 10 Ton Hyd. Pump

CG652 6 Ton Set

Includes:

- CG120-3-1 Hose
- CG120-4 Coupler Set
- CG250-20 Replacement Point
- CG4-2A 4 to 10 Ton Hyd. Pump
- CG650 6 Ton Ram

CG122 10 Ton Set

Includes:

- CG120 10 Ton Ram
- CG120-13 Pressure Screw
- CG120-3-1 Hose
- CG120-4 Coupler Set
- CG270-20 Replacement Point
- CG4-2A 4 to 10 Ton Hyd. Pump

CG420A 20 Ton Set

Includes:

- CG420-1-14 Centering Adaptor
- CG420-1A 20 Ton Ram
- CG420-2A 1 Stage Pump
- CG420-3-1 Hose
- CG420-4 Coupler Set

CG420A2S 20 Ton Set

Same as CG420A with the CG420-2S Two-Stage Pump.

CG720



Ram (Cylinder) Specifications

Capacity, tons	Stock No.	Stroke, inches	Collapsed Height, inches	Extended Height, inches	Effective Area (Piston)	Oil Capacity, cu. in.	Pressure Screw Size
4	CG220	2 1/4	6	8 1/4	.966	2.174	1/2"-13 x 14 1/4"
6	CG650	1 1/2	4 11/16	6 3/16	1.473	2.210	5/8"-11 x 13 1/4"
10	CG120	1	4 3/4	5 3/4	2.440	2.440	3/4"-10 x 16 1/4"
20	CG420-1A	2	6	8	4.418	8.836	1 1/8"-8 x 20 1/2"
35	CG720	2 1/2	7	9 1/2	7.903	19.758	1 3/8"-8 x 25"
50	CG520	3	8 1/8	11 1/8	11.066	33.198	1 5/8"-5 1/2 x 30"

Hydraulic Accessories

Both conversion kits provide hydraulic power for the pullers which are included in the CG2500B Puller Sets.

CG1224



CG6223 6 Ton Power Kit.

Converts CG250 and CG253 Manual Pullers and CG1500 Puller Set to hydraulic power. Includes:

- CG652 6 Ton Pump and Ram Set
- CG250-15 Two-Jaw Yoke
- CG250-16 Hand Wheel Adaptor
- CG253-15 Three-Jaw Yoke

CG1224 10-ton Power Kit.

Converts CG270, CG273, CG280, and CG283 Manual Pullers (on Tool Control Panel "A") and CG1700/CG2500B Puller Sets to hydraulic power. Includes:

- CG122 10 Ton Pump and Ram Set
- CG270-15 Two-Jaw Yoke
- CG270-16 Hand Wheel Adaptor
- CG273-15 Three-Jaw Yoke

CG420-6



CG420-6 Gauge Mounting Adaptor.

Mounts CG420-5C Pressure Gauge to 6-ton, 10-ton, 20-ton, 35-ton, and 50-ton hydraulic systems.

CG420-5C

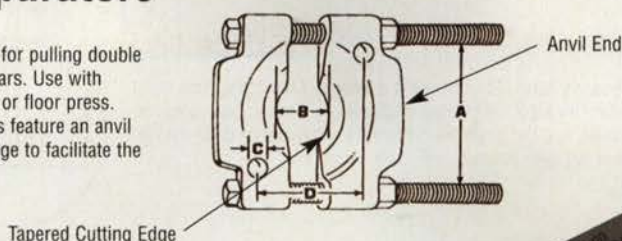


CG420-5C Pressure Gauge.

Can be used with 6-ton, 10-ton, 20-ton, 35-ton, and 50-ton hydraulic equipment. Use CG4-2A, CG420-2A, or CG420A-2S Pumps. Indicates hydraulic pressure in tons of pressure as well as p.s.i. Adaptor is required to attach gauge to pumps.

Bearing Separators

Bearing separators are used for pulling double bearings and close fitting gears. Use with tapped hole, two jaw pullers or floor press. Snap-on® bearing separators feature an anvil end and a tapered cutting edge to facilitate the separation of bearings.



Bearing Separators

Stock No.	A	B	B	C	D
CJ949	1 11/16	1 1/8	1/4	5/16"-18	2 5/8
CJ950	2 3/8	2 3/8	3/8	3/8"-16	3 3/4
CJ951	4 3/8	4 1/2	5/8	5/8"-18	7 1/4
CJ952	5 7/8	6 1/8	1 1/2	5/8"-18	9 5/16
CJ953	8 3/8	8 3/4	1 1/4	3/4"-16	14 7/16

CJ9500 Bearing Separator Set. Includes CJ950, CJ951, and CJ952 (3 pcs).

Bar-Type Puller Adaptors

Male and female adaptors add versatility to the pulling and pushing capabilities of bar-style pullers. They serve to change the diameter and/or thread pitch of pressure

screws and side rods to accommodate the item being pushed or pulled. The unthreaded male ends of bull nose adaptors are good for many pushing operations.



Male Adaptors

Stock No.	Female Thread	Male Thread
CG656-12	7/8"-14	5/8"-18
CG656-13	5/8"-11	5/8"-18
CJ84-6	5/8"-18	5/16"-24
CJ84-15	5/8"-18	5/16"-18
CJ84-7	5/8"-18	3/8"-24
CJ84-10	5/8"-18	3/8"-16
CJ84-8	5/8"-18	7/16"-20
CJ84-18	5/8"-18	7/16"-14
CJ84-9	5/8"-18	1/2"-20
CJ84-11	5/8"-18	1/2"-13
CJ84-17	5/8"-18	5/8"-18
CJ84-12	5/8"-18	5/8"-11
CJ84-13	5/8"-18	3/4"-16
CJ84-14	5/8"-18	3/4"-10
CG710-3	3/4"-16	5/8"-18
CG150-12	3/4"-10	5/8"-18
CG150-13	3/4"-10	3/4"-16

* For attaching CG46 Series Pullers to CG105HY Hydraulic Bar-Style Puller.

** For attaching CG46 Series Pullers to CG710 Push-Pull Set.

† For attaching CG47 Series Pullers to CG450HYA Hydraulic Bar-Style Puller.

CG455 Male Adaptor Set. Includes two each of the male adaptors CG455-1 through CG455-8 (16 pcs).

Female Adaptors

Stock No.	Female Thread
CG455-9	7/8"-14 and 5/8"-18
CG455-10	7/8"-14 and 3/4"-16
CG455-11	7/8"-14 and 1"-14
CG455-12	7/8"-14 and 1 1/8"-8
CG455-13	7/8"-14 and 1 1/8"-12
CG455-14	7/8"-14 and 1 1/4"-8
CG455-15	7/8"-14 and 1 1/4"-12
CG455-17	7/8"-14 and 1 1/2"-12
CG455-16	7/8"-14 and 1 1/2"-8

CG455A Female Adaptor Set. Includes two each of the female adaptors (18 pcs).



WARNING

• Read additional safety precautions on page 321, and M1 to M4.



Pullers Blind Hole Bearing

Set Components:

Stock No.	Description
CG40-11	Collet, 43/64" to 53/64"
CG40-12	Collet, 15-18 mm
CG40-4-1	Extension Collet, 4"
CG250-8A	Slide Screw, 5/8"-18 x 18 3/16"
CG250-9	Slide Hammer, 2 lb.
CG40-1	Pressure Screw, 5/8"-18 x 7-3/4"
CG40-2	Nut, 1 1/8" Wrench Size
CG40-3	Yoke, 3-1/4" Spread
CG41-11	Expanding Rod for:
CG41-14	Collet, 1/4"-5/16"
CG41-12	Collet, 5/16"-3/8"
CG41-13	Collet, 3/8"-7/16"
CG40-4	Expanding Rod for:
CG40-9	Collet, 7/16"-1/2"
CG40-15	Collet, 1/2"-5/8"
CG40A6	Collet, 5/8"-3/4"
CG40-7	Collet, 3/4"-7/8"
CG40-8	Collet, 7/8"-1"
CG40A10	Collet, 1"-1-1/8"
CJ105-4B	Slide Screw, 3/4"-16 x 22-1/2"
CJ97-3A	Slide Hammer, 3-3/4 lbs.
CG270-1A	Pressure Screw, 3/4"-16 x 9 1/2"
CG270-11A	Pressure Screw
CG45-2	Nut, 1 1/8" Wrench Size
CG45-3	Yoke, 5" Spread
CG45-4	Expanding Rod for:
CG45-15	Collet, 1"-1 1/4"
CG45-6	Collet, 1-1/4"-1 1/2"
CG45-7	Collet, 1-1/2"-1 3/4"
CG46-1	Slide Screw, 1"-14 x 18"
CG46-2	Slide Hammer, 6 lb.
CG46-3	Expanding Rod for:
CG46-4	Collet, 1 5/8"-2"
CG46-5	Collet, 2"-2 1/2"
CG46-6	Collet, 2 1/2"-3"
CG4567N	Slide Screw, 1 1/4"-12 x 24"
CG4567O	Slide Hammer, 10 lb.
CG47-201	Expanding Rod for:
CG47-202	Master Collet
CG47-203	Collet Pad, 3"-3 1/2" (3)
CG47-204	Collet Pad, 3 1/2"-4" (3)
CG47-205	Collet Pad, 4"-4 1/2" (3)
CG47-206	Collet Pad, 3 1/2"-5" (3)
CG47-207	Collet Pad, 5"-5 1/2" (3)
CG47-208	Collet Pad, 5 1/2"-6" (3)
CG47-209	Collet Pad, 6"-6 1/2" (3)
CG47-210	Collet Pad, 6 1/2"-7" (3)
CG47-211	Screw, 3/4" (3 sets of 2)
CG47-212	Screw, 1 3/4" (3 sets of 2)
KRA40	Metal Box, 9 1/2" x 5 1/2" x 2"
KRA109	Metal Box, 25 1/2" x 6" x 5 1/2"

Accessories

CG40-11 (43/64" to 53/64") Collet.

For needle bearings on Leece-Neville alternators. Use with CG40-4 Expanding Rod.

CG40-12 (15 to 18mm) Collet.

For pilot bearings on late-model Ford transmissions. Use with CG40-4 Expanding Rod.

CG40-4-1 (4" long) Collet Extension.

For CG40 Series Collets.

CG46-8 Manual Adaptor.

For attaching CG46 Series Pullers to CG710 Push-Pull Set.

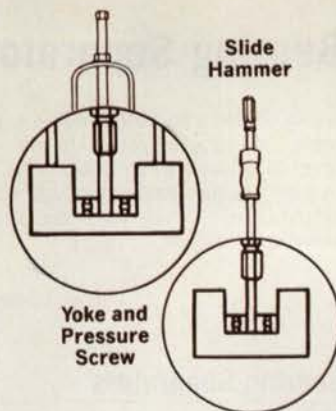
CG46-7 Hydraulic Adaptor.

For attaching CG46 Series Pullers to CG105HY Hydraulic Bar-Style Puller.

CG47-420 Hydraulic Adaptor.

For attaching CG47 Series Pullers to CG450HYA Hydraulic Bar-Style Puller.

These special pullers will pull blind hole bearings, bushings, and sleeves with inside diameters ranging from 1/4" to 7" where regular pullers won't reach. The operation is simple. After the special collet is inserted through the bearing or sleeve, a matched expanding rod is threaded into the collet and secured. Pulling can be done through bridge of bar-type yokes or with side hammers.



CG40CB 1/4"-1 1/8" Puller Set.

Nine collets and yoke in KRA40 Metal Box. Uses CG250-8A Slide Screw and CG250-9 Slide Hammer. Includes:

CG40-1	CG41-14	CG40-9	CG40-8
CG40-2	CG41-12	CG40-15	CG40A10
CG40-3	CG41-13	CG40A6	KRA40
CG41-11	CG40-4	CG40-7	

CG40C 1/4"-1 1/8" Puller Set.

CG40CB Set without the KRA40 Metal Box.



CG45 (1" to 1 3/4") Puller Set.

Three collets and yoke. Uses CJ105-4A Slide Screw and CJ97-3A Slide Hammer. Includes:

CG270-1A	CG45-4	CG45-6
CG45-2	CG45-15	CG45-7
CG45-3		



CG2545AB (1/4" to 1 3/4") Combined Set.

CG40C and CG45 Sets plus slide screw and hammers in KRA109 Metal Box. Includes:

CG250-8A	CG40-8	CG45-15
CG250-9	CG40-9	CG45-2
CG270-1A	CG40A10	CG45-3
CG40-1	CG40A6	CG45-4
CG40-15	CG41-11	CG45-6
CG40-2	CG41-12	CG45-7
CG40-3	CG41-13	CJ97-3A
CG40-4	CG41-14	KRA109
CG40-7		



CG46 (1 5/8" to 3") Puller Set.

Three collets, slide screw, and hammer. For large-size blind hole bearings, Torrington needle bearings, heavy-duty bearings on live center lathes, conveyor belts, and rollers. Includes:

CG46-1	CG46-3	CG46-5
CG46-2	CG46-4	CG46-6



CG47 (3" to 7") Puller Set.

Master collet and pads plus slide screw and hammer. Pulling size is changed by changing pads.

Includes:

CG4567N	CG47-204	CG47-209
CG4567O	CG47-205	CG47-210
CG47-201	CG47-206	CG47-211
CG47-202	CG47-207	CG47-212
CG47-203	CG47-208	

Industrial Pullers

CG1038KA

VE113B
Panel A

VE138-3B
Panel B



(side 1)

VE138-2B
Panel C

VE138-1B
Panel D



(side 2)

Reference Snap-on Parts CD for individual set components for CG1038KA/CG1050KA.

CG1038KA Industrial Puller Set. Includes more than 35 basic pullers that will assemble into more than 165 puller combinations. Standard pullers in this set have a range from 2 to 20-ton. The hydraulic power components provide up to 20-ton of easy pulling power. Optional 10 and 50-ton hydraulic accessories are available. Components are mounted on four 24" x 32" x 3/4" tool control panels (labeled "A," "B," "C," and "D" below) with white silhouettes. The panels are mounted on KRA2130 A-Frame.

CG1038K Industrial Puller Set. This is the CG1038KA Set but does not include the KRA2130 A-Frame.

CG1050KA Expanded Industrial Puller Set. Includes CG1038KA Set plus the CG1224 Power Kit for converting 10-ton manual pullers to hydraulic power; CG300-1, CG305-8, and CG350-1 Pressure Screws; CG343-1 4" Plug; CG350-2 Manual Yoke for converting the 20-ton hydraulic pullers to manual power; and CG555 Basic Hydraulic Set for building a 50-ton hydraulic bar-type puller. Also includes CG420-5C Pressure Gauge, CG420-6 Gauge Mounting Adaptor, ten CG250-20 Small Centering Adaptors, and ten CG270-20 Large Centering Adaptors.

KRA2130 Mobile Storage A-Frame. Mobile unit features 23,220 cu. in., 1260 sq. in. of storage for convenient access and orderly storage. Measures 26 1/2" W, 52 3/8" H, and 32 3/8" D.

Tool Control Panel Components

VE113B Tool Control Board, Panel "A". Panel "A" is designed to hold the components for CG2500BS Interchangeable Puller Set (6, 7 1/2, 10, and 12 1/2-ton capacity).

CG250	Screw-Type Puller	CG270S	Screw-Type, Special Grip
CG250H	Medium Slide Hammer	CG273	Screw-Type Puller
CG250HL	Medium Slide Hammer	CG273H	Large Slide Hammer
CG253	Screw-Type Puller	CG280	Screw-Type Puller
CG253H	Medium Slide Hammer	CG283	Screw-Type Puller
CG270	Screw-Type Puller		
CG270H	Large Slide Hammer		

VE138-3B Tool Control Board, Panel "B". Panel "B" is designed to hold CG2400 Light-Duty Puller Set, CJ840C Tapped Hole Puller Set, CJ949 Bearing Separator, and CJ9500 Bearing Separator Set components.

CG240	Screw-Type Puller	CJ840C	Bar-Type Tapped Hole Puller
CG240H	Small Slide Hammer	CJ949	Bearing Separator
CG243	Screw-Type Puller	CJ950	Bearing Separator
CG243H	Small Slide Hammer	CJ951	Bearing Separator
CJ93B	Small Slide Hammer	CJ952	Bearing Separator

VE138-2B Tool Control Board, Panel "C". Panel "C" is designed to hold CG450HYA 20-ton Hydraulic Bar-Type Puller components and the components of CG2545AB Blind Hole Bearing Puller Set. Components will build:

CG40C	Blind Hole Bearing Set	CG450	Bar-Type Puller
CG45	Blind Hole Bearing Set	CG450HYA	Hydraulic Bar-Type Puller

VE138-1B Tool Control Board, Panel "D". Panel "D" is designed to hold components of CG400 20-ton Jaw-Type Puller, three CG305-9 Long Jaws, CG455 and CG455A Threaded Adaptor Sets, plus CG455-18 and CG455-19 Pressure Screw Adaptors. The adaptors are for use with the bar-type pullers on tool control panel "C." Components will build:

CG400	Jaw-Type Puller	CG405	Jaw-Type Puller
CG400HYA	Hydraulic Jaw-Type Puller	CG450HYA	Hydraulic Bar-Type Puller

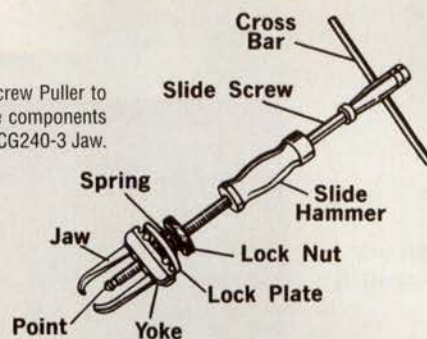


WARNING

• Read additional safety precautions on page 321, and M1 to M4.

Pullers Reference Charts

Pullers in all groups below are interchangeable within each grouping; e.g., to convert CG240 Two-Jaw Pressure Screw Puller to CG243H Three-Jaw Slide Hammer, add components shown on line CG243H, but not shown on line CG240. These components would be CG243-2 Yoke, CG240-8 Slide Screw, CG240-9 Slide Hammer, CG243-5 Locking Plate, and one additional CG240-3 Jaw.



2 ton and 2 1/2 ton Puller Group (CG240 Series):

1 1/16 lb. Hammer (CG240H Series)

Stock No.	2-Jaw Yoke CG240-2	3-Jaw Yoke CG243-2	Std. Pres. Screw CG240-1	Long Pres. Screw CG240-11	Slide Screw CG240-8	Slide Hammer CG240-9	2-Jaw Lock Plate CG240-5	3-Jaw Lock Plate CG243-5	Spring CG240-6	Adjusting Nut CG240-7	Standard Jaw CG240-3	Long Jaw CG240-10
CG240	1	—	1	—	—	—	1	—	1	1	2	—
CG240L	1	—	—	1	—	—	1	—	1	1	—	2
CG240H	1	—	—	—	1	1	1	—	1	1	2	—
CG240HL	1	—	—	—	1	1	1	—	1	1	—	2
CG243	—	1	1	—	—	—	1	1	1	1	3	—
CG243L	—	1	—	1	—	—	—	1	1	1	—	3
CG243H	—	1	—	—	1	1	—	1	1	1	3	—
CG243HL	—	1	—	—	1	1	—	1	1	1	—	3

6 ton and 7 1/2 ton Puller Group (CG250 Series):

2 1/8 lb. Hammer (CG250H Series)

Stock No.	2-Jaw Yoke CG250-2	3-Jaw Yoke CG253-2	Pressure* Screw CG250-1A	Slide* Screw CG250-8A	Slide Hammer CG250-9	Cross Bar CG10F	Lock Plate CG250-5	Spring CG250-6	Adjusting Nut CG250-7	Standard Jaw CG250-3	Long Jaw CG250-10	Pulling Plate CG1
CG250	1	—	1	—	—	—	1	1	1	2	—	—
CG250A	1	—	1	—	—	—	1	1	1	2	—	1
CG250C	1	—	1	1	1	1	1	1	1	2	—	1
CG250H	1	—	—	1	1	1	1	1	1	2	—	—
CG250HL	1	—	—	1	1	1	1	1	1	—	2	—
CG253	—	1	1	—	—	—	1	1	1	3	—	—
CG253H	—	1	—	1	1	1	1	1	1	3	—	—
CG253L	—	1	1	—	—	—	1	1	1	—	3	—
CG1500	1	1	1	1	1	1	1	1	1	3	3	—
CG2500B**1	1	1	1	1	1	1	2	2	2	3	3	—

*CG250-20 Replacement Point and CG250-21 Flat Point for CG250 Series.

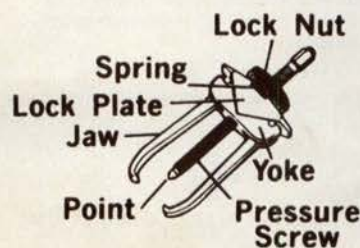
**CG2500B continued in next chart below.

10 and 12 1/2 ton Puller Group (CG270, CG280 Series):

3 1/2 lb. Hammer (CG270H Series)

Stock No.	2-Jaw Yoke CG270-2	3-Jaw Yoke CG273-2	Std. Pres.* Screw CG270-1A	Long Pres.* Screw CG270-11A	Manual Adaptor CG270-13	Slide* Screw CG270-8A	Slide Hammer CG66-2	Cross Bar CG10F	2-Jaw Lock Plate CG270-5	3-Jaw Lock Plate CG273-5	Spring CG270-6	Lock Nut CG270-7	Std. Jaw CG270-3	Long Jaw CG270-10	Special Jaw CG270-3S	Extra Long Jaw CG270-12	Pulling Plate CG1
CG270	1	—	1	—	—	—	—	—	1	—	1	1	2	—	—	—	—
CG270A	1	—	1	—	—	—	—	—	1	—	1	1	2	—	—	—	1
CG270C	1	—	1	—	—	1	1	1	1	—	1	1	2	—	—	—	1
CG270H	1	—	—	—	—	1	1	1	1	—	1	1	2	—	—	—	—
CG270S	1	—	1	—	—	—	—	—	1	—	1	1	—	—	2	—	—
CG272	1	—	—	1	—	—	—	—	1	—	1	1	—	2	—	—	—
CG273	—	1	1	—	—	—	—	—	1	1	1	1	3	—	—	—	—
CG273A	—	1	1	—	—	—	—	—	1	1	1	1	3	—	—	—	1
CG273C	—	1	1	—	—	1	1	1	1	—	1	1	3	—	—	—	1
CG273H	—	1	—	—	—	1	1	1	1	—	1	1	3	—	—	—	—
CG280	1	—	—	1	—	—	—	—	1	—	1	1	—	2	—	—	—
CG283	—	1	—	1	—	—	—	—	1	1	1	1	—	3	—	—	—
CG284	1	—	—	1	1	—	—	—	1	—	1	1	—	—	—	2	—
CG285	—	1	—	1	1	—	—	—	—	—	1	1	—	—	—	3	—
CG2500B	1	1	1	1	—	1	1	1	1	1	2	2	3	3	3	—	—

*CG270-20 Replacement Point and CG270-21 Flat Point for CG270 and CG280 Series.

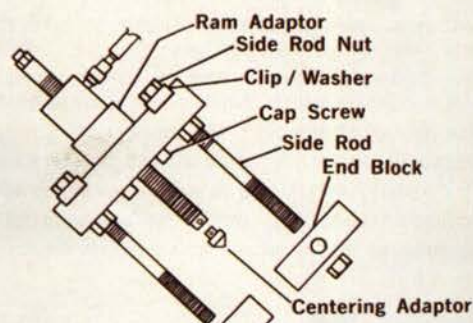
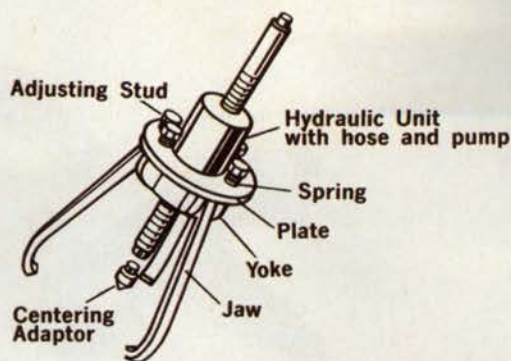


20 ton Pullers (CG300 Series)

Stock No.	2-Jaw Yoke CG300-2	Pressure Screw CG300-1	Pressure Screw CG305-8	Lock Plate CG300-5	Spring CG300-6	Lock Nut CG300-7	Std. Jaw CG300-3	Long Jaw CG305-9
CG300	1	1	—	1	1	1	2	—
CG305	1	—	1	1	1	1	—	2

*CG300-20 Replacement Point and CG300-21 Flat Point for CG300 and CG305 series pullers.

Reference Charts Pullers



Jaw-Style Pullers (Hydraulic and Manual)

Set Stock No.	Hydraulic Unit	Ram Adaptor	Hydraulic Adaptor	Yoke	Pressure Screw	4" Diameter Plug	Plate	Spring	Adjusting Stud	Jaws	Side Arms/ Side Plate	Arm Bolts/ Arm Nuts	Washers/ Cap Screws
CG654HY	CG652	CG250-16	—	CG250-15 *	—	—	CG250-5	CG250-6	—	CG250-3 (2)	—	—	—
CG655HY	CG652	CG250-16	—	CG253-15 *	—	—	CG250-5	CG250-6	—	CG250-3 (3)	—	—	—
CG274HY	CG122	CG270-16	—	CG270-15 *	—	—	CG270-5	CG270-6	—	CG270-3 (2)	—	—	—
CG275HY	CG122	CG270-16	—	CG273-15 *	—	—	CG273-5	CG270-6	—	CG270-3 (3)	—	—	—
										CG270-10 (3)	—	—	—
CG276HY	CG122	CG270-16	CG270-14	CG270-15 *	—	—	CG270-5	CG270-6 (4)	—	CG270-12 (2)	—	—	—
CG277HY	CG122	CG270-16	CG270-14	CG273-15 *	—	—	CG273-5	CG270-6 (4)	—	CG270-12 (3)	—	—	—
CG400HYA	CG420A	—	—	CG400-2 *	—	—	CG400-5	CG400-6 (4)	CG400-7 (4)	CG300-3 (3)	—	—	—
CG343	—	—	—	CG400-2	CG300-1	CG343-1	CG400-5	CG400-6 (4)	CG400-7 (4)	CG300-3 (3)	—	—	—
CG405HYA	CG420A	—	—	CG400-2 *	—	—	CG400-5	CG400-6 (4)	CG400-7 (4)	CG305-9 (3)	—	—	—
CG348	—	—	—	CG400-2	CG305-8	CG343-1	CG400-5	CG400-6 (4)	CG400-7 (4)	CG305-9 (3)	—	—	—
CG425HYA	CG420A	CG425-9	—	—	—	—	—	—	—	—	—	CG325-5 (3)	—
												CG325-5 (3)	—
CG325	—	—	—	—	—	—	—	—	—	—	—	CG325-5 (3)	—
												CG325-5 (3)	—
CG560HY	See Hyd. Unit Chart	—	—	CG560-2 *	—	—	—	—	—	—	—	CG560-5 (9)	—
												CG560-6 (9)	—

Bar-Style Pullers (Hydraulic and Manual)

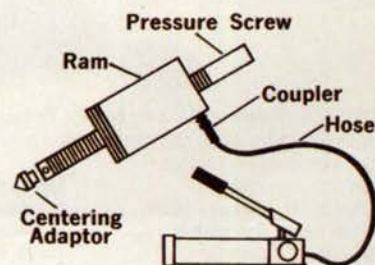
Set Stock No.	Hyd. Unit	Ram Adaptor	Yoke	Pressure Screw	Centering Adaptor	Pressure Screw Adaptor	Thrust Washer	Thrust Nut	Side Rods (2)	Side Rod Hex Nuts (6)	Clip/ Washer	Side Rod Conn. Nuts (2)	End Blocks (2)	Side Rod Adaptors (2)	Cap Screw (2 Each)
CJ84C	—	—	CJ84-1B	CJ84-4	CJ84-16	—	—	—	CJ84A2 (10")	—	ME5A16 (2)	—	—	—	—
CG706	—	—	CG656-2	CG706-1	CG250-20	—	CG325-6	CG706-2	CG656-3 (4) (8")	CG656-7	CG656-8 (4)	CG656-6	CG656-6	CG656-12	—
CG710	—	—	CG150-2	CG710-1	CG270-20	CG710-3	CG45-2	CG710-2	CG150-3 (12")	—	—	—	CG150-6	—	—
									CG150-4 (8")	—	—	—	—	—	—
CG656HY	CG652	—	CG656-2 *	—	—	CG656-13	—	—	CG656-3 (8")	CG656-7	CG656-8 (2)	CG656-5	CG656-6	CG656-12	CG656-11
	CG656-9	—	—	—	—	—	—	—	—	—	—	—	—	—	CG656-10
CG656	—	—	CG656-2	—	—	CG656-13	—	—	CG656-3 (8")	CG656-7	CG656-8 (2)	CG656-5	CG656-6	CG656-12	CG656-11
									—	—	—	—	—	—	CG656-10
CG150HY	CG122	—	CG150-2 *	—	—	CG150-12 (3/4")	—	—	CG150-3 (12")	—	—	—	CG150-6	—	CG150-11
	CG150-9	—	—	—	—	CG150-13 (3/4")	—	—	CG150-4 (8")	—	—	—	—	—	CG150-10
CG150	—	—	CG150-2	—	—	CG150-12 (3/4")	—	—	CG150-3 (12")	—	—	—	CG150-6	—	CG150-11
						CG150-13 (3/4")	—	—	CG150-4 (8")	—	—	—	—	—	CG150-10
CG450HYA	CG420A	—	CG450-10 *	—	—	—	—	—	CG350-3 (18")	CG350-7	CG350-8 (2)	CG350-5	CG350-6	CG350-9	CG450-11
	CG425-9	—	—	—	—	—	—	—	CG350-4 (9")	—	—	—	—	—	CG450-12
CG450	—	—	CG450-10	—	—	—	—	—	CG350-3 (18")	CG350-7	CG350-8 (2)	CG350-5	CG350-6	CG350-9	CG450-11
	CG425-9	—	—	—	—	—	—	—	CG350-4 (9")	—	—	—	—	—	CG450-12
CG350	CG420A	—	CG350-2	CG350-1	—	—	—	—	CG350-3 (18")	CG350-7	CG350-8 (2)	CG350-5	CG350-6	CG350-9	CG450-11
	CG425-9	—	—	—	—	—	—	—	CG350-4 (9")	—	—	—	—	—	CG450-12
CG750HY	See Hyd. Unit Chart	—	CG750-2 *	—	—	CG750-11 (7/8")	—	—	CG750-3 (20")	CG750-7	CG750-8 (2)	CG750-5	CG750-6	CG750-9	CG750-11
			—	—	—	CG750-13 (7/8")	—	—	CG750-4 (10")	—	—	—	—	—	CG750-12
CG750	—	—	CG750-2	—	—	CG750-14 (1 1/8")	—	—	CG750-3 (20")	CG750-7	CG750-8 (2)	CG350-5	CG750-6	CG750-9	CG750-11
	CG720-9	—	—	—	—	—	—	—	CG750-4 (10")	—	—	—	—	—	CG750-12

*Included with hydraulic ram (see chart below).

Hydraulic Power Units

Set Stock No.	Capacity, Tons	Ram	Pressure Screw	Centering Adaptor	Hose	Coupler	Pump	Optional Items* Pressure Gauge	Gauge Adaptor
CG222	4	CG220	CG220-13	—	CG120-3-1	CG120-4	CG4-2A	—	—
CG652	6	CG650	CG650-13	CG250-20	CG120-3-1	CG120-4	CG4-2A	CG420-5C	CG420-6
CG122	10	CG120	CG120-13	CG270-20	CG120-3-1	CG120-4	CG4-2A	CG420-5C	CG420-6
CG420A	20	CG420-1A	CG420-1-13A	CG420-1-14	CG420-3-1	CG420-4	CG420-2A	CG420-5C	CG420-6

*Standard with CG559 Bar-Style Puller Set.



See page 324 for more information on One- and Two-Stage Hydraulic Power units.

See Warranty Information on inside front cover.

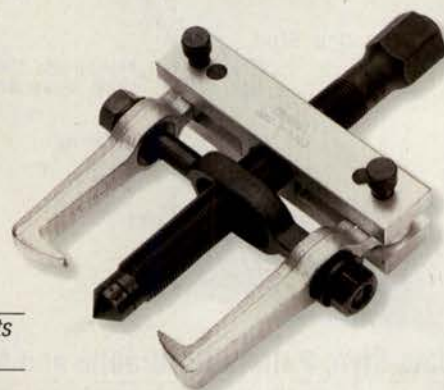
Pullers Bar Type Interchangeable

Interchangeable bar-style pullers provide high quality pulling equipment with the versatility needed to handle a wide variety of pulling functions.

Standardized pressure screw threading, jaw retention, and design means that new components can be added to an existing puller to change its reach or spread in order to handle new or different applications.

These Snap-on® bar-style pullers also feature:

- Replaceable pressure screw points help keep the puller safely centered.
- Multi-position yokes help keep the jaws properly aligned with the item being pulled.
- Adjustable clamp bolts allow jaws to be snugged up against the job for a safer more convenient pull.
- Spring ball pin retention securely holds jaws while allowing quick jaw changes.



CJ83C



CJ83C Pulley and Gear Puller. Ideal for servicing crankshaft pulleys and gears and timing gears on a wide range of gasoline and diesel engines including Cummins accessory drives and water pumps. Includes two each 3/8"-16 x 3", 5/16"-18 x 2 1/2", and M10-1.5 x 65mm bolts. Nominal capacity is 3.5 tons. Use to remove accessory drive pulley (replace with M1324). Includes yoke; two each 3/8"-16 x 3", 5/16"-18 x 2 1/2", and M10-1.5 x 65mm studs; and 3/4"-16 x 5" pressure screw.

Includes:

CJ86-1	Yoke	ME5A55	Washer
CJ83-3	Pressure Screw	ME3A45	Studs (2)
CJ66-15-3	Centering Point	ME3A44	Studs (2)
ME5A54	Washer (1 needed)	ME3A75	Studs (2)

CJ82B



CJ82B Pitman Arm Puller. Handles many Pitman arm applications plus a wide variety of general pulling jobs. Nominal capacity is 6 tons.

CJ86-1	Yoke	CJ86-4	Clamp Bolt
CJ83-2	Pressure Screw	CJ85-4	Washer (2)
CJ66-15-3	Centering Point	ME4A33	Clamp Nuts (2)
CJ81-2A	Jaws (2)	CJ105-11	Jaw Pins (2)

CJ85A



CJ85A Truck Differential Side Bearing Puller. Similar in appearance to CJ81D but bigger for handling truck applications. Four centering plates included. Nominal capacity is 7.5 tons.

CJ85-1	Yoke	ME4A33	Clamp Nuts (2)
CJ83-2	Pressure Screw	CJ105-11	Jaw Pins (2)
CJ66-15-3	Centering Point	CJ85-5	Adaptor
CJ85-2	Jaws (2)	CJ85-6	Adaptor
CJ85-3	Clamp Bolt	CJ85-7	Adaptor
CJ85-4	Washer (2)	CJ85-8	Adaptor

Puller Specifications

Stock No.	Nominal Capacity, tons	Maximum Reach, inches	Maximum Spread, inches	Pressure Screw Size, inches
CJ83C	3.5	Variable	5	3/4-16 x 3 1/2
CJ82B	6	2 1/4	3 3/8	3/4-16 x 4 1/4
CJ81D	6	1 1/8	3 3/8	3/4-16 x 4 1/4
CJ85A	7.5	1 3/4	5 1/2	3/4-16 x 4 1/4
CJ80A	7.5	D3: 1 1/8, D5: 1 3/8	5	3/4-16 x 3 1/2

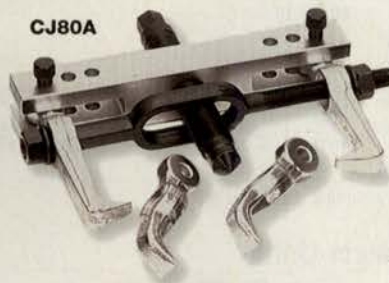
CJ81D



CJ81D Differential Side Bearing Puller. Narrow jaws slip into housing grooves in back of bearing and let jaws seat and pull along with inner race. Jaws are locked onto bearing by clamp bolt. Four centering plates are included. Nominal capacity is 6 tons.

CJ86-1	Yoke	ME4A33	Clamp Nuts (2)
CJ105-3	Pressure Screw	CJ105-11	Jaw Pins (2)
CJ66-15-3	Centering Point	CJ81B1A	Adaptor
CJ81-2A	Jaws (2)	CJ81B2A	Adaptor
CJ86-4	Clamp Bolt	CJ81D1A	Adaptor
CJ85-4	Washer (2)	CJ81D2A	Adaptor

CJ80A



CJ80A A/C Pulley Puller. Also excellent for removal of alternator, generator, power steering and crankshaft pulleys, harmonic balancers, and fiber timing gears. Includes an extra pair of jaws for versatility. Nominal capacity is 7.5 tons.

CJ85-1	Yoke	CJ85-3	Clamp Bolt
CJ83-3	Pressure Screw	CJ85-4	Washer (2)
CJ66-15-3	Centering Point	ME4A33	Clamp Nuts (2)
CJ81-2A	Jaws (2)	CJ105-11	Jaw Pins (2)
CJ87-1	Jaws (2)		

Bar Type Interchangeable Pullers

CJ Series Major Components



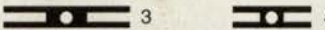



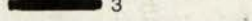



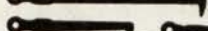


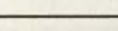


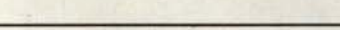
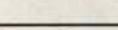
















Stock No.	Yoke	Pressure Centering Jaws	Point (2)	Clamp Washers	Clamp Nuts	Jaw Pins	Studs
Stock No.	Yoke	Screw	Point	Bolt (2)	Washers (2)	Nuts (2)	Adaptors (2)
CJ83C	A4	B3	C1	—	F2, F3	—	K1, K2, K3
CJ82B	A4	B2	C1	D3	E4	F1	G1
CJ81D	A4	B2	C1	D3	E4	F1	H1
CJ85A	A3	B2	C1	D4	E3	F1	H1
CJ80A	A3	B3	C1	D3, D5	E3	F1	H1

Letters in chart refer to Key No. in chart below (A3, C1 etc.)

Other Interchangeable Components

Stock No.	Pressure Screws	Jaws	Centering Points
CJ83C	B1, B2	—	C2
CJ82B	B1, B3	D1, D2, D4, D5	C2
CJ81D	B1, B3	D1, D2, D4, D5	C2
CJ85A	B1, B3	D1, D2, D3, D5	C2
CJ80A	B1, B2	D1, D2, D4	C2

Letters in chart refer to Key No. in chart below (B1, C2 etc.)

Stock No.	Description	Key No.	Specific Dimensions	
			Usable Range, inches	Pin Holes per Side
	CJ86-1	Yoke	A4	1 3/4 - 4 1/2
	CJ85-1	Yoke	A3	3 - 6 1/2
	CJ118-1	Yoke	A2	6 - 10 1/2
	CJ100-1	Yoke	A1	10 1/2 - 16
			Thread x Length	Hex Size, inches
	CJ105-3	Pressure Screw	B1	3/4"-16 x 10 1/2
	CJ83-2	Pressure Screw	B2	3/4"-16 x 4 1/4
	CJ83-3	Pressure Screw	B3	3/4"-16 x 3 1/2
			Head Diameter, inches	Point Type
	CJ66-15-3	Centering Point	C1	5/8"
	CJ84-16	Centering Point	C2	7/8"
			Maximum Reach, inches	
	CJ116-1	Jaws (2 needed)	D1	8 1/4
	CJ282-1	Jaws (2 needed)	D2	4 3/8
	CJ81-2A	Jaws (2 needed)	D3	1 5/8
	CJ85-2	Jaws (2 needed)	D4	1 3/4
	CJ87-1	Jaws (2 needed)	D5	1 3/8
			Maximum Length, inches	
	CJ100A2	Clamp Bolt	E1	18
	CJ118-2A	Clamp Bolt	E2	11 1/2
	CJ85-3A	Clamp Bolt	E3	7 1/2
	CJ86-4A	Clamp Bolt	E4	5
			Inside Diameter, inches	Outside Diameter, inches
	ME5A54	Washer (1 needed)	F2	1 1/32
	ME5A55	Washer (1 needed)	F3	9/32
	CJ85-4	Washer (2 needed)	F1	15/32
			Thread Size	
	ME4A33	Clamp Nuts (2 Needed)	G1	7/16" x 20
			Diameter, inches	Length, inches
	CJ105-11	Jaw Pins (2 needed)	H1	5/16
			Outside Diameter, inches	Step Diameter, inches
	CJ81B1A	Adaptor	J1	1 1/2
	CJ81B2A	Adaptor	J1	1 5/8
	CJ81D1A	Adaptor	J1	1 3/4
	CJ81D2A	Adaptor	J1	1 11/32
	CJ85-5	Adaptor	J2	2
	CJ85-6	Adaptor	J2	2 1/8
	CJ85-7	Adaptor	J2	2 1/2
	CJ85-8	Adaptor	J2	3 1/16
			Thread x Length	
	ME3A45	Studs (2 needed)	K2	5/16"-18 x 2 1/2"
	ME3A44	Studs (2 needed)	K1	3/4"-16 x 3"
	ME3A75	Studs (2 needed)	K3	M10-1.5 x 65 mm



WARNING



• Read additional safety precautions on pages M1 to M4.

See Warranty Information on inside front cover.

Pullers Interchangeable Puller Sets



CJ2000SB

CJ2000SB Master Interchangeable Puller Set. Includes all components for the CJ2001, CJ2002, CJ2003A, CJ2004, and CJ2005 Puller Sets on VE200 Tool Control Board and KRA276D Locking Wall Storage Cabinet.

CJ2000S Master Interchangeable Puller Set. Same as the CJ2000SB without the Wall Cabinet.

CJ2000A Master Interchangeable Puller Set. Same as the CJ2000SB without the Wall Cabinet or the Tool Control Board.



CJ2002

CJ2002 Gear Puller Set. Use on Pitman arms, timing gears, carrier side bearings, and more. Makes any of ten different pullers. Capacity is from 6 to 10 tons depending on yoke and jaws used. Includes:

CJ105-11 Long Jaw Pin (4)	CJ87-1 3" Jaw (2)
CJ282-1 6" Jaw (2)	ME4A33 Hex Nut (4)
CJ82B Puller	CJ66-15-3 Centering Point
CJ83-3 Pressure Screw (3/16" Hex)	CJ81-2A Jaw (2)
CJ84-16 Centering Point	CJ83-2 Pressure Screw
CJ85-1 Yoke (3"-6 1/2")	CJ86-4A Bolt
CJ85-3A Bolt	CJ86-1 Yoke (1 3/4"- 4 1/2")
CJ85-4 Washer (4)	



CJ2004

CJ2004 Interchangeable Puller Set. Use on bearings, bearing races, gears, bushing retainers, etc. Builds any of 12 different pullers. Two and three jaw capability with three sets of jaws. All jaws reverse for inside and outside pulls. Pulling capacity: (short jaws) 4 1/2 ton, (medium jaws) 6 1/2 ton, (large jaws) 8 ton. Includes:

CJ105A8 3-Way Jaw Control	CJ105-3 Pressure Screw (3/4"-16 x 13")
CJ105A9 2-Way Jaw Control	CJ105-5 Small Jaw (3)
CJ105-1 Yoke	CJ105-6 Medium Jaw (3)
CJ105-10 Short Jaw-to-Control Pin (3)	CJ105-7 Large Jaw (3)
CJ105-11 Long Jaw Pin (4)	CJ66-15-3 Centering Point
CJ105-12 Cross Bar	CJ86-1 Yoke (1 3/4"- 4 1/2")

These puller sets are designed to give you the tools you need as your work grows. Start with one or more sets geared to specific tasks and build toward the ultimate in time-saving pulling tools, the CJ2000A Set with the display board and cabinet. There's no duplication in set contents or jaws. The yokes are interchangeable for added versatility.

CJ2001



CJ2001 Bolt Grip Puller Set. For steering wheels, flywheels, harmonic balancers, pulleys, gears with tapped holes, and more. Spread to bolt centers is 1 1/4" to 3 13/16". Capacity is from 3 to 6 tons depending on the cap screw size used. Includes:

CJ66-15-3 Centering Point	ME3A44 Bolt (3/8"-16 x 3") (3)
CJ83-3 Pressure Screw (3/16" Hex)	ME3A60 Bolt (M10-1.5 x 35mm) (3)
CJ84-16 Centering Point	ME3A6A Bolt (3/8"-16 x 2") (3)
CJ91-2A Plug	ME3A7A Bolt (3/8"-16 x 4 1/2") (2)
CJ98-1 4-Way Slotted Yoke	ME3A8A Bolt (1/4"-28 x 2 1/2") (2)
ME3A10A Bolt (3/16"-24 x 3") (2)	ME3A9A Bolt (3/16"-18 x 3 1/2") (3)
ME3A15A Bolt (3/8"-24 x 1 1/2") (3)	ME3A54 Washer (5/16") (3)
ME3A40 Bolt (M8-1.25 x 45 mm) (3)	ME3A55 Washer (1/4") (2)
ME3A41 Bolt (M8-1.25 x 90mm) (2)	ME3A79 Washer (8mm) (3)
ME3A42 Bolt (M8-1.25 x 65 mm) (2)	ME3A85 Washer (10mm) (3)
ME3A43 Bolt (3/16"-18 x 6") (2)	



CJ2003A

CJ2003A Rear Axle Puller Set. Slide hammer power pulls many flange-type rear axles as well as axle bearings. Includes:

CJ105-4B Slide Screw, 3/4"-16 x 22-1/2"	CJ137 Bearing Adaptor
CJ123-1 Axle Yoke	CJ97-3A Slide Hammer, 3 3/4 lb.
CJ127A Bearing Adaptor	ME4A8 Lock Nut (3/4")
CJ128A Bearing Adaptor	CJ66-19 Bearing Hook



CJ2005

CJ2005 Accessory Set. Boost the versatility of the CJ2000A components with a bearing separator, a variety of centering adaptors, and a 12" yoke and clamp bolt to add spread to your bar type set. Includes:

CJ81B1A Adaptor (1 1/8"-1 1/2" Diameter)	CJ85-6 Adaptor (1 21/32"-2 1/8" Diameter)
CJ81B2A Adaptor (1 1/4"-1 5/8" Diameter)	CJ85-7 Adaptor (1 27/32"-2 1/2" Diameter)
CJ81D1A Adaptor (1 1/8"-1 5/8" Diameter)	CJ85-8 Adaptor (2 3/8"-3 1/16" Diameter)
CJ81D2A Adaptor (1 3/16" - 1 11/32" Diameter)	CJ118-1 Yoke (6"-10 1/2")
CJ85-2 Jaw (1 3/4" Maximum Reach)	CJ118-2A Bolt
CJ85-5 Adaptor (1 1/2"-2" Diameter)	CJ950 Bearing Separator

Special Purpose



CJ2001P



CJ2001

CJ2001P Bolt Grip Puller Set. Services steering wheels, flywheels, pulleys, and gears with tapped holes. Includes a four-position two- and three-way yoke, three different pressure screw tips, and an assortment of fractional and metric bolts. Approximate spread to bolt is 1 1/4" to 3 13/16". Includes PB54A Plastic Carrying Case.

CJ2001 Bolt Grip Puller Set. For steering wheels, flywheels, harmonic balancers, pulleys, gears with tapped holes, and more. Spread to bolt centers is 1 1/4" to 3 13/16". Capacity is from 3 to 6 tons depending on the cap screw size used.

CJ2001FBK Bolt and Washer Set. Replaces all fractional bolts and washers in CJ2001 Bolt Grip Puller Set.

CJ2001MBK Bolt and Washer Set. Replaces all metric bolts and washers in CJ2001 Bolt Grip Puller Set.



CG60GB

CG60GB Tapped Hole Bearing Puller Set. Use on steering wheels with tapped holes. Includes two- and three-way yoke, pressure screw, and adaptor plus four sets of studs.

CG60-17 Stud (M8-1.25) (2)

CG60-7-4A Stud (9/16"-24) (2)

CG60-7-6 Stud (5/8"-18) (3)

CG60M2 Stud (3/4"-16) (3)

CG60R1 Yoke Pressure Screw (5/8"-18) (1)

CG60R2 Four-Arm Yoke (1)

CG60R3 Pressure Screw Adaptor (1)

Steering Wheel Pullers

CJ134



CJ134 Steering Pivot Pin Puller (Chrysler/Ford/GM).

Allows efficient removal of the two pivot pins on all tilt steering columns used on Chrysler, Ford, and GM vehicles.

CG95A



CG95A Steering Wheel Lock Plate.

Designed for airbag-equipped Saginaw steering columns found on GM, Chrysler LH Series (LHS, Intrepid, Concorde, and Eagle Vision), some Toyota, and Saab. Includes two pressure screws: one has 9/16"-18 threads, the other has M14-1.5 threads. The puller is zinc plated. Overall length is 4 7/8".



CG6095

CG6095 Steering Wheel Puller Set.

Combines the CG60GB Tapped Hole Puller and CG95A Lock Plate Remover. Lock Plate Remover is designed for servicing airbag equipped Saginaw steering columns found on GM, Chrysler LH Series (LHS, Intrepid, Concorde and Eagle Vision), some Toyota and Saab.

See Warranty Information on inside front cover.

Pullers



CJ93B

CJ93B Small Slide Hammer Puller Set. Remove bushings, seals, sleeves, bearings, bearing races, bronze and oilite bushings, and pressed-in studs. Includes two sets of jaws, grease retainer adaptor, bearing hook, body dent puller, stud pulling head, and 2 lb. slide hammer.



A78



SP2031

A78 Small Bearing Puller. For bearings and bushings typically found in small electric motors. Includes large jaw set for bronze and oilite bushings and small jaw set for smaller bearings and bushings. Up to 3-tons of pulling power.

SP2031 Pilot Bearing Puller. Attaches to slide hammer shafts with 3/4"-16 or 5/8"-18 threads. Pressure screw adaptor is made of stress-resistant steel. Industrial finish.

CG600



CG600 Chain Puller. Includes extra-long alloy chains with hooks on one end. Unique jaw lever arms on the other end are engineered not to slip. Has a 1 1/4" hex on the yoke so it can be held with a wrench while the pressure screw is being turned. Chain reach: Up to 54" (1371.6mm). Pressure screw size: 3/4"-16 x 12 1/8".

Automotive

CJ145



CJ145 GM Steering Wheel Puller.

Use on new GM steering wheels with air bags including tilting and telescoping styles. Handle attachment facilitates puller set-up and can be removed when working in confined areas. Applications include Buick (1997 and later Park Avenue/Regal), Cadillac (1997 and later Catera), Chevrolet/GMC (1997 and later Corvette/Malibu, 1998 C & K series trucks, 1998 full size vans, 1998 Astro/Safari vans), Oldsmobile (1997 and later Cutlass) and Pontiac (1988 to 1993 LeMans, 1997 and later Grand Prix/Trans Sport van).

CJ131P



CJ131P Steering Wheel Puller (GM/Ford/Chrysler/and AMC). Includes a selection of bolts and a handle in PB72 Plastic Box for servicing GM, Ford, Chrysler, and AMC cars. Adaptors are included for servicing lock plates on all GM and AMC vehicles with tilt wheel. Detachable handle helps hold puller when turning force is applied to pressure screw. Industrial finish.



WARNING

• Read additional safety precautions on pages M1 to M4.



Pullers Automotive

Power Steering and Alternator Pullers



CJ122

CJ122 Power Steering Pulley Installer. Includes CJ113B and CJ113C4. Includes CJ113B Installer, and CJ113C4 Pulley Installer Shaft. 3/8"-18 UNF-2A.



CJ138

CJ138 Pulley Installer. 8mm pulley installer features a thrust bearing for easier installation and a black industrial finish. Applications include power steering pulley on Ford 4.6L V8 (1991 and later), Ford 2.5L V6 (1995 and later), plus the installation of water pump drive pulleys on GM 4.6L (1992 and later Northstar), and 4.0L V8 (1995 and later Oldsmobile Aurora).



CJ112B

CJ112B Power Steering/Alternator Pulley Puller. 4 9/16" long jaws. For those domestic cars with pulleys with large 1 5/16" flange. Nickel/chrome finish jaws, industrial finish. 4 9/16" long.



CJ147

CJ147 Power Steering Gear Lower Pinion Bearing Puller Required tool to comply with GM Recall Bulletin #02049 regarding Power Steering Gear Lower Pinion Bearing Separation on Chevrolet Cavalier (1996-1998) Chevrolet Lumina APV (1996), Chevrolet Venture (1997-1998), Pontiac Sunfire and Trans Sport (1996-1998), Pontiac Grand Prix (1997-1998), and Oldsmobile Silhouette (1996-1998). To correct the problem, inspect the condition of the lower pinion bearing and replace the lower pinion bearing. In a few cases, replacement of the rack and pinion steering gear assembly may be necessary.

Harmonic Damper Pulley Pullers

YA9740B Harmonic Pulley Puller. Use on many Chrysler, Mitsubishi and GM engines. In most applications this compact tool eliminates the need to remove the radiator prior to removing the pulley. Includes YA9740A-6 Short Push Rod for use on crankshafts that are not drilled full depth plus two other push rods.

Chrysler: 3.3L V6 (1990 and later vans), 3.8L V6 (1994 and later vans) 8.0L V10 (1994 and later pick-ups), 3.3L and 3.5L V6 (1993 to 1997 autos), 2.0L 4-cylinder and 2.5L V6 (1995 and later autos), 2.7L DOHC V6 / 3.2L SOHC V6 / 3.5L SOHC V6 (1998 and later autos) plus 4.7L V8 (1998 and later).

Mitsubishi: Eclipse 2.0L DOHC non-turbo (1995-1999). GM: Gen III 5.7L V8 (1997 and later including Camaro, Corvette, Firebird and Trans-Am), Gen III trucks and SUV's with 4.8L V8, 5.3L V8, 6.0L V8 and 8.1L V8 (2000 and later). **Cadillac:** 4.5L V8 (1988-1992), 4.9L V8 (1991-1995), 4.6L (1993 and later), Escalade with 6.0L V8 engines. **OLDSMOBILE:** 4.0L V8 (1995 and later).

YA9740A-6 Push Rod. Short push rod for older model YA9740 Pullers. Use on crankshafts that are not drilled to full depth.

CJ113B Power Steering Pulley Installer.

Designed for domestic cars. 1" pulley driver hex, 7/16" pressure screw hex, and 3/8"-16 thread. 4 5/8" long.

CJ113B3 Bushing. Included with CJ113B.

CJ113C4 Pulley Installer Shaft (Optional).

Thread size of 5/8"-18UNF (puller end), 3/8" 16UNC (alternator end).



CJ113B



CJ117C

CJ117C Power Steering and Alternator Pulley Puller. Includes short adaptor to remove small flange-type pulley; use long adaptor on GM200/Platform vehicles. Can also remove Chrysler alternator pulleys that have double grooves. Replace pulleys with CJ113B Installer. Long adaptor included to handle pulleys on GM mini-vans. Nickel/chrome finish, industrial finish screw. Designed for most domestic cars. (Replace pulley with CJ122 sets). Long adaptor included to handle pulleys on GM mini-vans. Nickel/chrome finish, industrial finish screw.

CJ124A Power Steering and Alternator Pulley Puller. This is a larger version of CJ117C. Designed for Chrysler, Ford and earlier GM vehicles.

CJ3PSA Power Steering and Alternator Pulley Puller/Installer Set.

Set includes:

CJ113B Power Steering Pulley Installer.

CJ117C Power Steering and Alternator Pulley Puller.

CJ124A Power Steering and Alternator Pulley Puller.

CJ132A



CJ132A Power Steering Pump & Alternator Pulley Puller/Installer Set.

GM Quad 4, GM 3.1L and Ford 4.6L applications. Removes/installs press-on, belt driven accessory pulleys. Removal housing for grooved hub diameters of 1 1/8", 1 5/16", and 1 3/8". Includes components for 3/8"-16 threaded shaft. Housing holding bar prevents main housing from spinning during use with an impact wrench. Quad 4 Installation Nut simplifies usage with 4-cylinder GM vehicles. Includes instructions carrying case.

Pitman Arm Pullers

CJ119B Pitman Arm Puller (Domestic Cars/Light Trucks).

Designed for most domestic cars and light trucks. Pressure screw size: 3/4"-16 x 6 7/8". Industrial finish.

CJ115 Pitman Arm Puller (Compact/Intermediate).

Similar in design to CJ119B except it is designed for compact and intermediate size cars.

CJ119B



YA9740B



Stud Removers / Dowel Pin Pullers Extractors

Stud Remover Sets

CG515B Metric Set



CG515B Stud Remover Set. 15 pcs include:
 CG500-2 CG500-8 CG500-13
 CG500-3 CG500-9 CG500-14
 CG500-5 CG500-10 CG500-15
 CG500-6 CG500-11 CG500-16
 CG500-7 CG500-12 KRA150

CG500 Stud Remover Set. 4 pcs include:
 CG500-8 CG500-12 CG500-2
 CG500-10

CG505 Stud Remover Set. 4 pcs include:
 CG505-2 CG505-4 CG505-1
 CG505-3

CGM515B Stud Remover Set. 15 pcs include:
 CG500-30 CG500-40 CG500-54
 CG500-33 CG500-42 CG500-55
 CG500-36 CG500-43 CG500-60
 CG500-37 CG500-48 CG500-61
 CG500-39 CG500-49 CG500-2

Stud Remover Set Components

Tapered collets thread onto stud, even if only a few threads are exposed. Tightening the housing bolt draws the collet into the housing and clamps collet onto stud. Tools don't damage stud threads.

NOTE: Avoid bottoming or shouldering studs to avoid shearing or damaging stud or workpiece.

CG500-2



CG500-17



Stock No.	Collet Size	Stock No.	Collet Size	Stock No.	Collet Size	Stock No.	Collet Size	Stock No.	Collet Size	Stock No.	Collet Size
CG500-17	#10-24	CG500-12	1/2"-20	CG505-5	3/4"-16	CG508-1	1 1/8"-7	CG508-12	1 1/2"-8	CG500-48	M12-1.25
CG500-18	#10-32	CG500-13	9/16"-12	CG505-3	7/8"-9	CG508-9	1 1/8"-8	CG508-8	1 1/2"-12	CG500-49	M12-1.50
CG500-3	1/4"-20	CG500-14	5/16"-18	CG505-6	7/8"-14	CG508-2	1 1/8"-12	CG500-30	M6-1.00	CG500-54	M14-1.50
CG500-4	1/4"-28	CG500-15	5/8"-11	CG505-4	1"-8	CG508-3	1 1/4"-7	CG500-33	M7-1.00	CG500-55	M14-2.00
CG500-5	5/16"-18	CG500-16	5/8"-18	CG505-7	1"-14	CG508-10	1 1/4"-8	CG500-36	M8-1.00	CG500-60	M16-1.50
CG500-6	5/16"-24	CG500H1	3/8" Hex	CG505H1	5/8" Hex	CG508-4	1 1/4"-12	CG500-37	M8-1.25	CG500-61	M16-2.00
CG500-7	3/8"-16	CG500H2	7/16" Hex	CG505H2	1 1/16" Hex	CG508-5	1 3/8"-6	CG500-39	M9-1.00	CG500-2	Housing
CG500-8	3/8"-24	CG500H3	1/2" Hex	CG505H3	3/4" Hex	CG508-11	1 3/8"-8	CG500-40	M9-1.25	CG505-1	Housing
CG500-9	7/16"-14	CG500H4	9/16" Hex	CG505H4	13/16" Hex	CG508-6	1 3/8"-12	CG500-42	M10-1.25	CG508	Housing
CG500-10	7/16"-20	CG505-8	1 1/16"-16	CG505H5	7/8" Hex	CG508-7	1 1/2"-6	CG500-43	M10-1.50	KRA150	Metal Box
CG500-11	1/2"-13	CG505-2	3/4"-10								

Combination Stud Remover / Dowel Pin Puller Sets

CG5151 Master Stud and Dowel Puller Set.

60 pcs include:

CG250-8A CG500-40 CG500-18
 CG250-9 CG500-42 CG500-20 thru -24
 CG500-2 thru -16 CG500-43 CG500P1 thru P3
 CG500H1 thru H3 CG500-48 CG503-1 thru -8
 CG500-30 CG500-49 CG10F
 CG500-33 CG500-54 CG325-6
 CG500-36 CG500-55 CG503S1
 CG500-37 CG500-60 CG503-9 thru -14
 CG500-39 CG500-17

CG5152 SAE Stud and Dowel Puller Set.

29 pcs include:

CG250-8A CG503-1 thru -8 CG325-6
 CG250-9 CG10F CG5151-1
 CG500-2 thru -16

CG5151-1 Plastic Case.

Storage Case for CG5151, CG5152 and CG5153 Sets.

CG5153 Metric Stud and Dowel Puller Set.

29 pcs include:

CG250-8A CG500-42 CG325-6
 CG250-9 CG500-43 CG503-9
 CG500-2 CG500-48 CG503-10
 CG500-30 CG500-49 CG503-11
 CG500-33 CG500-54 CG503-12
 CG500-36 CG500-55 CG503-13
 CG500-37 CG500-60 CG503-14
 CG500-39 CG503-1 CG5151-1
 CG500-40 CG10F

Dowel Pin Puller Sets

CG503



CG503 Dowel Pin Puller Set. 11 pcs include:

CG503-2 CG503-6 CG10F
 CG503-3 CG503-7 CG250-8A
 CG503-4 CG503-8 CG250-9
 CG503-5 CG503-1

CG503S Dowel Pin Puller Set. 6 pcs include:

CG503S1 CG10F CG250-9
 CG503-1 CG250-8A CG325-6

CG513 Dowel Pin Puller Set. 7 pcs include:

CG513-4 CG513-1 CG45670
 CG513-5 CG513-2 CG513-3
 CG513-6

CGM503 Dowel Pin Puller Set. 11 pcs include:

CG503-9 CG503-13 CG250-8A
 CG503-10 CG503-14 CG250-9
 CG503-11 CG503-1 CG325-6
 CG503-12 CG10F

Dowel Pin Puller Sets Components

Stock No.	Collet Size	Stock No.	Collet Size
CG503-2	1/4"	CG503-8	5/8"
CG503-3	5/16"	CG513-4	3/4"
CG503-4	3/8"	CG513-5	7/8"
CG503S1	3/8" Square	CG513S1	1/2" Square
CG503-5	7/16"	CG513S2	5/8" Square
CG503-6	1/2"	CG513-6	1"
CG503-7	9/16"	CG503-9	6mm

Stock No.	Collet Size	Stock No.	Collet Size
CG503-10	8mm	CG513-2	Slide Screw
CG503-11	10mm	CG10F	Cross Bar
CG503-12	12mm	CG250-8A	Slide Screw, 5/8"-18 x 18 9/16"
CG503-13	14mm	CG45670	Slide Hammer, 10 lb.
CG503-14	16mm	CG250-9	Slide Hammer, 2 lb.
CG503-1	Housing	CG325-6	Nut
CG513-1	Housing	CG513-3	Nut

CG500-23



Heavy Duty Housing with Collet

NOTE: Collets are threaded to order; specify stud thread size when ordering. Example: CG510 1 3/4"-10 Collet.
 NOTE: Avoid bottoming or shouldering studs to avoid shearing or damaging stud or workpiece.

CG510 For larger stud sizes 1 5/8" thru 2".

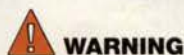
CG511 For larger stud sizes 2" thru 2 1/2".

CG512 For larger stud sizes 2 1/2" thru 3".

Serrated Collets

Serrated gripping portions are used to remove unthreaded studs that cannot be removed with standard collets due to lack of gripping surface.

NOTE: Avoid bottoming or shouldering studs to avoid shearing or damaging stud or workpiece.



WARNING

• Read additional safety precautions on pages M1 to M4.



Extractors Pipe Nipple Removers, Extractor Sets

Pipe Nipple Remover Set Components

Stock No.	Collet Size	Housing Stock No.
CG500P1	1/8" NPT	CG500-2
CG500P3	3/8" NPT	CG500-2
CG505P1	1/2" NPT	CG500-2
CG505P2	3/4" NPT	CG500-2
CG508P1	1" NPT	CG508-2
CG508P2	1 1/4" NPT	CG508-2



Pipe Nipple Remover Sets

NOTE: Avoid bottoming or shouldering studs to avoid shearing or damaging stud or workpiece.

CG500P Pipe Nipple Remover Set. 4 pcs include: CG500P1, CG500P2, CG500P3, and CG500-2.

CG505P Pipe Nipple Remover Set. 3 pcs include: CG505P1, CG505P2, CG505-1.

CG508P Pipe Nipple Remover Set. 3 pcs include: CG508P1, CG508P2, CG508.

Combination Extractor Sets

(Components defined in table below and described on next page.)

E1025



E1025 Extractor Set.

Extract broken screws from 1/4" to 1" diameter and standard pipe sizes 1/8" to 1". Packaged in a wooden case. Includes all components shown below.

CSE405B	DBF1/2C	E1421	E3	E82
DBF1/8C	E34	E1521	E4	E83
DBF1/4A	E33A	E1621	E5	E84
DBF3/16C	E921	E1721	E6	E85
DBL1/4C	E1021	E1821	E7	
DBF5/16C	E1121	E3033	E8	
DBF11/32C	E1221	E1	E80	
DBF7/16C	E1321	E2	E81	

E1020 Screw Extractor Set.

Extracts broken screws from 1/4" to 1/2" diameter.

Comes in a plastic case. 20 pcs include:

DBF1/8C	DBF5/16C	E1021	E1321	E1621	E1	E4
DBF3/16C	DBF11/32C	E1121	E1421	E1721	E2	E5
DBF1/4C	E921	E1221	E1521	E1821	E3	

E1020



EXD10

EXD10 Right Hand Extractor Set.

Includes five right-hand, mechanic's length cobalt drill bits and five spiral flute screw extractors in a B110 Metal Index. 11 pcs include:

DBCFS5/64	DBCFS19/64	EX4
DBCFS7/64	EX1	EX5
DBCFS5/32	EX2	
DBCFS1/4	EX3	



EXD35 Extractor Set.

Quickly and easily extracts the toughest screws from 3/32" to 15/16" screw sizes (including metric sizes). Includes 16 left-hand mechanic's length cobalt drill bits, 13 multi-spline screw extractors and six spiral flute screw extractors in a B110 Metal Index.

EXD35-1 Plastic case. 35 pcs include:

DBCL5/64A	DBCL19/64A	EX1	REX106A	REX114A
DBCL7/64A	DBCL5/16	EX2	REX107A	REX115A
DBCL1/8	DBCL11/32	EX3	REX108A	REX116A
DBCL5/32A	DBCL3/8	EX4	REX109A	
DBCL3/16	DBCL13/32	EX5	REX110A	
DBCL7/32	DBCL7/16	EX6	REX111A	
DBCL1/4A	DBCL15/32	REX104A	REX112A	
DBCL9/32	DBCL1/2	REX105A	REX113A	

EXD35



EXDL10 Left Hand Extractor Set.

Includes five left-hand, mechanic's length cobalt drill bits and five spiral flute screw extractors in a B110 Metal Index. 10 pcs include:

DBCL5/64A	DBCL5/32A	DBCL19/64A	EX2	EX4
DBCL7/64A	DBCL1/4A	EX1	EX3	EX5

Extractor Set Components. See pages 337-338 for component descriptions.

Stock No.	Stock No.	Stock No.	Stock No.	Stock No.	Stock No.
<i>Right Hand Drill Bits</i>	<i>Left Hand Drill Bits</i>	<i>Sleeve-Type Drill Guides</i>	<i>Straight Screw Extractors</i>	<i>Spiral Flute Screw Extractors</i>	<i>Multi-Spline Screw Extractors (cont.)</i>
CSE405B	DBCL5/64A	E34	E1	EX1	REX110A
DBCFS5/64	DBCL7/64A	E33A	E2	EX2	REX111A
DBCFS7/64	DBCL1/8	<i>Solid Type Drill Guides</i>	E3	EX3	REX112A
DBCFS5/32	DBCL5/32A	E921	E4	EX4	REX113A
DBCFS1/4	DBCL3/16	E1021	E5	EX5	REX114A
DBCFS19/64	DBCL7/32	E1121	E6	EX6	REX115A
DBF1/8C	DBCL1/4A	E1221	E7		REX116A
DBL1/4C	DBCL9/32	E1321	E8	<i>Multi-Spline Screw Extractors</i>	
DBF3/16C	DBCL19/64A	E1421	<i>Pipe Plug Extractors</i>	REX104A	
DBF1/4A	DBCL5/16	E1521	E80	REX105A	
DBF5/16C	DBCL11/32	E1621	E81	REX106A	
DBF11/32C	DBCL3/8	E1721	E82	REX107A	
DBF7/16C	DBCL13/32	E1821	E83	REX108A	
DBF1/2C	DBCL7/16		E84	REX109A	
	DBCL15/32		E85		
	DBCL1/2				

Extractor Sets



All-In-One Extractor Sets

YA769 Extractor Set. 4 pcs. Extract broken screws from 1/4" to 1/2" diameter. Drill/extract with one tool. Left hand drill bit. For use in 3/8" drive reversible drill.

Stock No.	Extractor Size, inches (mm)	Drilling Speed, RPM	Extracting Speed, RPM
YA769-1	1/4 (6)	700-800	350
YA769-2	5/16 (8)	650-750	470
YA769-3	3/8 (10)	600-700	350
YA769-4	1/2 (12)	475-575	350

YA800 Master Power Extractor Set. Includes YA769-2 thru YA769-4 and YA789-1 thru YA789-4 in plastic storage case.

YA789 Power Extractor Set.

Place extractor end of tool in drill chuck, set for reverse, and hole can be drilled. Next, insert drill side into chuck, exposing extractor end, and finish the job to remove broken screw. 4 pcs. packaged in YA789-5 Plastic Case.

Stock No.	Bolt Grade	Bolt Size	Extractor Size	
			Fractional	Metric
YA789-1	#5, #6	—	—	M3
YA789-2	#8	—	—	M4
YA789-3	—	#10, #12	—	M5
YA789-4	—	—	1/4"	M6

YA2019 Power Extractor Set.

Use to remove damaged PHILLIPS®, TORX®, POZIDRIV®, Slotted Internal Hex, TRI-WING®, Frearson and most Tamper resistant screws and fasteners. Tool bites into the damaged fastener in the reverse direction allowing the user to easily remove damaged screws. Use with variable speed reversing drill or 1/4" hex bit screwdriver. Set includes YA2019-1 thru YA2019-3 in storage case.

Stock No.	Screw Size	Stock No.	Screw Size
YA2019-1	#6 to #8	YA2019-3	#10 to #12
YA2019-2	#8 to #10		

Extractor Tools



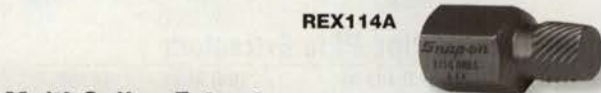
Multi-Spline Extractor Sets

REX25A. REX104A thru REX128A (25 pcs) in a plastic tray. Shoulder prevents extractor from entering too deeply and expanding screw.

REX10A. REX104A thru REX113A (10 pcs) in a plastic tray.

REX15A. REX104A thru REX118A (15 pcs) in a plastic case.

REX15A1. Plastic Case for RX15A.



Multi-Spline Extractors

Stock No.	Drill Size, inches	Bolt Size, inches	Pipe Size, inches	Hex Size, inches	Mark
REX104A	1/8	1/4	—	1/2	A
REX105A	5/32	5/16	—	1/2	B
REX106A	3/16	3/8	—	1/2	C
REX107A	7/32	7/16	—	1/2	D
REX108A	1/4	1/2	1/8	1/2	E
REX109A	9/32	9/16	—	1/2	F
REX110A	5/16	5/8	—	1/2	G
REX111A	11/32	11/16	1/4	1/2	H
REX112A	3/8	3/4	—	1/2	I
REX113A	13/32	13/16	—	1/2	J
REX114A	7/16	7/8	—	5/8	K
REX115A	15/32	15/16	3/8	5/8	L
REX116A	1/2	1	—	5/8	M
REX117A	17/32	1 1/16	—	5/8	N
REX118A	9/16	1 1/8	—	3/4	O
REX119A	19/32	1 3/16	—	3/4	P
REX120A	5/8	1 1/4	1/2	3/4	Q
REX121A	21/32	1 5/16	—	7/8	R
REX122A	11/16	1 3/8	—	7/8	S
REX123A	23/32	1 7/16	—	7/8	T
REX124A	3/4	1 1/2	—	7/8	U
REX125A	25/32	1 9/16	3/4	1	V
REX126A	13/16	1 5/8	—	1	W
REX127A	27/32	1 11/16	—	1	X
REX128A	7/8	1 3/4	—	1	Y

Hex Head Fastener Extractors

Use on most popular hex head fasteners from 1/4" to 1" (8mm to 24mm). Sockets feature left hand spiral flutes for maximum gripping power. Manufactured from high carbon steel for maximum strength. External hex and square drive wrenching options for use with wrenches, impact wrenches and ratchet/socket combinations.

Stock No.	Square Drive, inches	Size, inches (mm)	External Hex, inches (mm)	Outside Diameter, inches (mm)	Length, inches (mm)
BEX081	3/8	1/4 (n/a)	5/8 (15.9)	3/8 (9.5)	1 1/16 (27.0)
BEX101	3/8	5/16 (8)	5/8 (15.9)	7/16 (11.1)	1 1/16 (27.0)
BEX121	3/8	3/8 (n/a)	5/8 (15.9)	9/16 (14.3)	1 1/16 (27.0)
BEXM101	3/8	n/a (10)	3/4 (19.1)	5/8 (15.5)	1 1/16 (27.0)
BEX141	3/8	7/16 (11)	3/4 (19.1)	5/8 (15.9)	1 1/16 (27.0)
BEXM121	3/8	n/a (12)	3/4 (19.1)	23/32 (17.5)	1 1/16 (27.0)
BEX161	3/8	1/2 (n/a)	3/4 (19.1)	23/32 (17.9)	1 1/16 (27.0)
BEXM131	3/8	n/a (13)	3/4 (19.1)	23/32 (18.5)	1 1/16 (27.0)
BEX181	3/8	9/16 (14)	7/8 (22.2)	25/32 (19.4)	1 1/16 (27.0)
BEX201	3/8	5/8 (16)	7/8 (22.2)	7/8 (21.8)	1 1/16 (27.0)
BEXM171	3/8	n/a (17)	1 (25.4)	29/32 (23.0)	1 1/16 (27.0)
BEX221	3/8	1 1/16 (n/a)	1 (25.4)	15/16 (24.2)	1 1/16 (27.0)
BEX241	3/8	3/4 (19)	1 1/16 (27)	1 1/32 (26.2)	1 1/16 (27.0)
BEXW241	1/2	3/4 (19)	1 1/4 (31.8)	1 1/8 (28.6)	1 3/4 (44.5)
BEXW261	1/2	13/16 (21)	1 3/8 (34.9)	1 3/16 (30.2)	1 3/4 (44.5)
BEXW281	1/2	7/8 (22)	1 7/16 (36.5)	1 1/4 (31.8)	1 3/4 (44.5)
BEXW301	1/2	15/16 (24)	1 7/16 (36.5)	1 5/16 (33.3)	1 3/4 (44.5)
BEXW321	1/2	1 (n/a)	1 7/16 (36.5)	1 3/8 (34.9)	1 3/4 (44.5)

BEX13 Hex Head Fastener Set. Includes all 3/8" square drive BEX/BEXM sockets (13 pcs) (1/4" to 3/4", 8 to 19mm) in BEX13CASE Storage Case.

BEX5 Hex Head Fastener Set. Includes all 1/2" square drive BEXW sockets (5 pcs) (3/4" to 1", 19 to 24mm) in BEX5CASE Storage Case.

BEX5CASE Plastic Storage Case. For BEX5 Extractor Set.

BEX13CASE Plastic Storage Case. For BEX13 Extractor Set.



WARNING

• Read additional safety precautions on pages M1 to M4.

Extractors Extractor Tools

DBLS105A



Stock No.	Size, inches
<i>Right Hand Drill Bits</i>	
<i>High Speed</i>	
CSE405B	5/8
DBF1/2C	1/2
DBF1/4C	1/4
DBF1/8C	1/8
DBF11/32C	11/32
DBF3/16C	3/16
DBF5/16C	5/16
DBF7/16C	7/16
DBL1/4A	1/4
<i>Cobalt</i>	
DBCFS1/4	1/4
DBCFS19/64	19/64
DBCFS5/32	5/32
DBCFS5/64	5/64
DBCFS7/64	7/64
<i>Left Hand Drill Bits</i>	
<i>High Speed</i>	
DBLS1/8A	1/8
DBLS3/16A	3/16
DBLS1/4A	1/4
DBLS5/16A	5/16
DBLS11/32A	11/32

Stock No.	Size, inches
<i>Cobalt</i>	
DBCL5/64A	5/64
DBCL7/64A	7/64
DBCL1/8	1/8
DBCL5/32A	5/32
DBCL3/16	3/16
DBCL7/32	7/32
DBCL1/4A	1/4
DBCL9/32	9/32
DBCL19/64A	19/64
DBCL5/16	5/16
DBCL11/32	11/32
DBCL3/8	3/8
DBCL13/32	13/32
DBCL7/16	7/16
DBCL15/32	15/32
DBCL1/2	1/2

DBLS105A Left Hand Drill Bit Set. DBLS1/8 thru DBLS11/32 (5 pcs.) in a plastic pouch.

DBCL105A Left Hand Cobalt Drill Bit Set. DBCL5/64, DBCL7/64, DBCL5/32, DBCL1/4 and DBCL19/64 Drill Bits (5 pcs.) in a plastic pouch.

EX1



Spiral Flute Screw Extractors

Designed to remove broken studs, bolts, socket screws and fittings. Aggressive left-hand spiral design for extra gripping power.

Stock No.	Size	Removes Bolts and Screws
EX1	5/64"	3/32" to 5/32", 2.5mm to 4mm, #3 to #6
EX2	7/64"	5/32" to 7/32", 4mm to 6mm, #6 to #12
EX3	5/32"	7/32" to 9/32", 6mm to 8mm, #12
EX4	1/4"	9/32" to 3/8", 1/8" NPT, 1/8" BSP, 8mm to 10mm
EX5	19/64"	3/8" to 5/8", 1/4" NPT, 1/4" BSP, 10mm to 16mm
EX6	13/32"	5/8" to 7/8", 3/8" NPT, 3/8" BSP, 16mm to 22mm

Taper Bit Extractors

SR40K Extractor Set. Tapered ends have left-hand threads to bite deep into drilled studs. Square shafts for use with wrench. Set includes (4 pcs) in C47B Kit Bag.

SR4A	1/8"	SR10A	9/64"
SR14	7/32"	SR20	5/16"

C47B Kit Bag

SR40K



A50



A36



A80A



LA55A



Cam and Wedge Type Stud Removers

NOTE: Avoid bottoming or shouldering studs to avoid shearing or damaging stud or workpiece.

A50. V-shaped rack grips stud. Grip releases when pressure is relieved. Use 3/4" drive handle.

A50-4B Optional Rack. For 5/16" to 3/8" capacity.

A54. Includes A50 and A50-4B.

E34



E33A



E33B



Sleeve-Type Drill Guides

Use to center 1/4" diameter, 6" long drill bits (see DBL1/4A above). Parts are interchangeable to adapt to different screw or stud holes and depths up to 3 3/4".

E34 Sleeve-Type 5/8" O.D.

E33A Sleeve-Type 3/4" diameter.

E33B Sleeve Spacer (set of 4) 5/8" diameter.

E921



Solid-Type Drill Guides

Used for centering drills at a depth not exceeding 1".

Stock No.	Outside Diameter, inches	For Drill Size, inches	Length, inches
E921	9/32	1/8	1 3/16
E1021	5/16	1/8	1 3/16
E1121	11/32	1/8	1 3/16
E1221	3/8	1/8	1 3/16
E1321	13/32	3/16	1 3/16
E1421	5/16	3/16	1 3/16
E1521	15/32	3/16	1 3/16
E1621	1/2	3/16	1 3/16
E1721	17/32	1/4	1 3/16
E1821	9/16	1/4	1 3/16

E2133



Sleeve Bushings (in pairs)

Stock No.	Diameter, inches
E2133	21/32
E2933	29/32
E3033	15/16
E3133	31/32

E1



E6



E80



Straight Screw / Pipe Plug Extractors

Stock No.	For Screw Diameter or Standard Pipe, inches	Drill Size, inches	Length, inches
<i>Straight Screw</i>			
E1	1/4	1/8	2 5/16
E2	5/16	3/16	2 3/4
E3	3/8	1/4	3 1/16
E4	7/16	5/16	3 5/16
E5	1/2	11/32	3 3/4
<i>Straight Screw, Square Type</i>			
E6	1/2	7/16	4 1/8
E7	3/4	1/2	4 1/2
E8	1	1/2	4 5/8
<i>Pipe Plug</i>			
E80	1/8	17/64	2 1/4
E81	1/4	3/8	2 1/2
E82	3/8	1/2	2 3/4
E83	5/8	5/8	3
E84	3/4	13/16	3 1/4
E85	1	1 1/16	3 1/2

A36. Knurled wheel grips stud. Driving shank extends through both sides of housing for bearing surface on each side of wheel. Use 1/2" drive handle.

A80A. 1/4" to 1/2" capacity. Jaws grip when pressure is applied. Built-in ratchet action. Needs only 1 1/4" clearance. Use with 1/2" drive handle or 1" wrench.

LA55A. Grip is released by turning tool in reverse direction. Works on wedge principle. Use with 3/4" drive handle. Includes 2 wedge sizes:

LA55A2 and LA55A3.

LA54. Smaller version of LA55A. Includes 2 wedge sizes:

LA54-2A and LA54-3A.

Diesel Service Sets

Tools Required for Cummins B and C Series Service Kits

		Applications				Set Contents	
		12 Valve	24 Valve			CUMDS12V	CUMDS24V
		pre 1994	1994 to 1998.5	1999 to 2002	2003	12 Valve	24 Valve
FB300A	Bent Blade Feeler Gauge	•	•	•	•	•	•
MT33C	Compression Gauge	•	•	•	•	•	•
MB5B	Bronze Injector Brush	•	•	•	•	•	•
MB6BT	Stainless Steel Injector Brush	•	•	•	•	•	•
YA9565A	Engine Turn Over Tool	•	•	•	•	•	•
CJ140-1	Injector Slide Hammer Puller	•	•	•	•	•	•
CJ141	12mm Injector Adaptor	•	•	•	•	•	•
CJ142	14mm Injector Adaptor	•	•	•	•	•	•
FRHM17	17mm 6-Point Crowfoot	•	•	•	•	•	•
FRXM17	17mm 6-Point Flare Nut Socket	•	•	•	•	•	•
M3584	Compression Adaptor	•	•	•	•	•	•
SP144	Injection Pump Wrench	•	•	•	•	•	•
SP145	Idle Wrench (10mm)	•	•	•	•	•	•
TSM24	24mm, 6-Point Deep Socket	•	•	•	•	•	•
YA8331	Timing Indicator Gauge	•	•	•	•	•	•
FRHM19	19mm 6-Point Crowfoot	•	•	•	•	•	•
FRXM19	19mm 6-Point Flare Nut Socket	•	•	•	•	•	•
EEP313A00	Compression Adapter	•	•	•	•	•	•
CJ143	Adapter	•	•	•	•	•	•
CJ144	Adapter	•	•	•	•	•	•
SP504	Gear Puller	•	•	•	•	•	•
CJ148	Fuel Line Plug	•	•	•	•	•	•
CJ149	Adapter	•	•	•	•	•	•
KRW200	Plastic Case	•	•	•	•	•	•

Optional Tools

MT139A	Digital Tachometer to measure engine RPM	•	•	•	•
V22A	Valve Adjusting Tool to easily adjust valves	•			
TWM14A	14mm 1/2" dr Shallow Socket use with V22A to adjust valves	•			
SP346	Fan Wrench (36mm)	•			

CUMDS12V Cummins B and C Series 12-Valve Diesel Set.

Serves Cummins B and C Series 12-valve engines from pre-1994. 15 tools in KRW200 case.

CUMDS24V Cummins B and C Series 24-Valve Diesel Set.

Serves Cummins B and C Series 24-valve engines 1994 and later. 14 tools in KRW200 case.



2020HDSB



SP500

Detroit 53, 71, and 92 Series

2020HDSB In-Line and V Series Set. 12 pcs. include:

FB308D	Step Feeler Gauge Set	M3525A	Governor Lock Socket
FB325A	Feeler Gauge Set	M3530	Governor Adjusting Gap Wrench
FBFT7	Throttle Delay Gauge Ring	M3531	Governor Lock Nut Gap Wrench
M3503B	Fuel Line Nut Socket	M3536	Timing Pin Gauge (1.500")
M3517B	Push Rod Lock Nut Wrench	PB25	Plastic Box
M3518	Push Rod Adjusting Wrench		
M3520	Timing Pin Gauge (1.460")		
M3521	Timing Pin Gauge (1.484")		

Diesel Timing Gauge Set

SP500 Diesel Timing Gauge Set. The SP500 Diesel Gauge Set will update existing 2017DSP Diesel Service Sets to handle 1994 to 1998 Cummins "B" engines used in Dodge Ram 250/350 pick-up trucks and some Fords. Updated 2017DSP Set will also service J.I. Case tractors and off road equipment.

SP503 Spline Socket. Used to remove and replace the delivery valve on most Bosch fuel injection pumps. Wrench size is 34-tooth. 1/2" drive size.

SP504 Gear Puller. Used to remove the injection pump gear. Bolt thread is M8 x 1.25. Bolt length is 44mm.

SP5001 Dial Indicator. Features rack and pinion construction. Refer to the pump manufacturer's service manual when using this gauge. Gauge diameter is 2 1/4 inches. Range is 30mm. Gauge is marked in .01mm increments.

SP5002 Gauge Holder. Used in fuel injection pump in place of the #1 delivery valve to locate the base circle of the injection pump cam. Male thread is M22 x 1.5.

Diesel Farm Service

Torque Adaptor / Tractor Head Bolt Adaptor

S8684B Tractor Head Bolt Adaptor. Services head bolts on John Deere, Massey Ferguson, J.I. Case, and Oliver (models 1650, 1655, 1755, 1865, 1950T, and 1955); White 285 and 2015, and Allis Chalmers 180 and 190. 12-point, 13/16" wrench size, 1/2" drive on other end. 6 1/8" long.



WARNING

• Read additional safety precautions on pages M1 to M4.



B4203



S8684B

Starter and Injector Pump Wrench

B4203 Torque Adaptor. For John Deere, Case, and Minneapolis-Moline tractors. 15/16" box end, 12 point. 1/2" drive. 1 1/4" box end diameter; 1 11/64" square drive end diameter. 5 1/2" long.

See Warranty Information on inside front cover.

Diesel Cummins Service Tools

M1318



Valve Adjusting Wrenches

M1318 Valve Adjusting Wrench. 3/4", 12-point box wrench to tighten lock nuts on rocker arms. For use on space-saver cabs. 12 1/2" long. RAILROAD APPLICATION: Use to adjust valves on GE locomotives.

M1322 Valve Adjusting Wrench. Similar in appearance to M1318. 3/4", 12-point box wrench to tighten lock nuts on rocker arms. Designed to clear the aftercooler. 14 3/4" long.

M1319 Valve Adjusting Wrench. Similar in appearance to M1318. 7/8", 12-point box wrench to tighten lock nuts on rocker arms. Designed to clear the aftercooler. 12" long.

M1328A

M1321

M1329



Air Compressor / Fuel Pump Wrenches

M1328A Air Compressor/Fuel Pump Wrench. Includes 5/8", 12-point box wrench on one end for servicing fuel pumps and a specially designed 11/16" open end for access to air compressor bolts.

M1321 Air Compressor/Fuel Pump Wrench. Similar to M1328A but has a 12-point box wrench on both ends. One is 5/8"; the other is 11/16". Accommodates air compressor and fuel pump flange bolts on NH Series In-line 6 cylinder engines.

M1329 Fuel Pump Wrench. Includes 7/16", 12-point box end for servicing fuel pump bolts on NH Series Engines equipped with Cummins air compressors. 6 5/8" long.

ST1137A

ST1136A



Lock Nut / Adjusting Screw Torque Adaptors

ST1136A Lock Nut Torque Adaptor. 3/4" open end wrench torques lock nuts on engines with Jacobs engine brakes. 1/2" square drive adaptor is 7 1/2" long.

ST1137A Adjusting Screw Torque Adaptor. 7/16" open end wrench adjusts injectors on engines equipped with Jacobs engine brakes. 3/8" square drive adaptor is 3 3/16" long.

ST747D

YA9565A



Engine Turning Tools

YA9565A Engine Turning Tool. Used to rotate the engine for making valve and injection pump adjustments on Cummins and J.I. Case 3.9L, 5.9L and 8.3L "B" and "C" Series engines. 3/8" female square drive.

ST747D Engine Turning Tool. For turning the engine while making valve and injector adjustments or checking engine timing. Attaches to accessory drive pulley with belt in position. Use with 24B Handle. 24" long.

SP346



Fan Wrench

SP346 Fan Wrench. 36mm open end wrench services fan clutch attaching bolts on B Series Cummins Engines. Can also be used on fan clutch bolts on Navistar 6.9L and 7.3L engines. Wrench is 15" long and has a red, vinyl-covered handle.

SP144

SP145



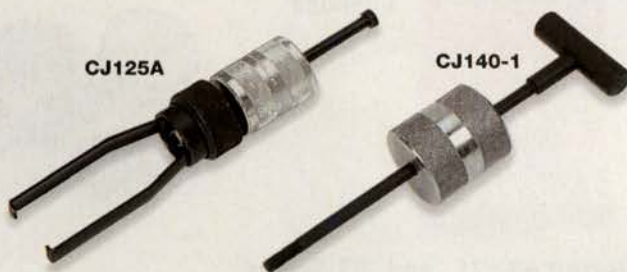
Injector Pump / Idle Lock Nut Wrench

SP144 Injector Pump Wrench. 13mm, 12-point box wrench is used to service the injection pump mounting bolts found on 5.9L Cummins engines.

SP145 Idle Lock Nut Wrench. 10mm, 12-point wrench with 90° angle is designed to remove or install mounting bolts on the diesel injection pump. For Cummins B Series 5.9L Engines.

CJ125A

CJ140-1



Injector Pullers

CJ125A Injector Puller. Slide hammer puller services "D," "Top Stop," and small V8 injectors. 10 1/2" long.

CJ140 Injector Puller Set. Use on fuel injectors in Cummins "B" and "C" Series 3.9L, 5.9L and 8.3L engines used in Dodge pick-ups and Case tractors/off-road equipment. Will service all 1994 to 1998-1/2 standard injectors as well as fuel inlet tubes.

CJ140-1 Slide Hammer. 8 mm thread accommodates 1998-1/2 injector changes.

CJ141 Adaptor (12mm). Use on Cummins diesel injectors prior to 1994.

CJ142 Adaptor (14mm). Use on Cummins diesel injectors from 1994 to 1998-1/2.

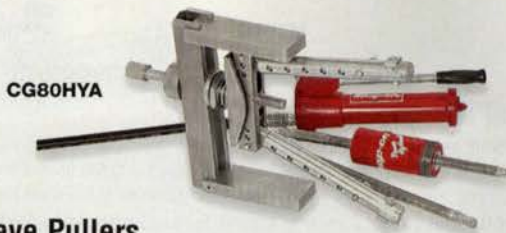
CJ143 Injector Puller (8mm). Use on 1998-1/2 Cummins diesel injectors in tight access areas.

CJ144 Injector Puller (15mm). Use on 1998-1/2 Cummins diesel fuel inlet tubes.

See other Diesel Service Tools on the following pages.

▲ Read safety precautions on pages M1 to M4.

Cummins Service Tools Diesel



Wet Sleeve Pullers

CG80HYA Hydraulic Wet Sleeve Puller. Provides hydraulic pressure for removing wet sleeves on Cummins diesels, trucks, and heavy construction and farm equipment with a cylinder diameter of 3" to 6". Reach is 7" to 12". Adjustable bridge fits around studs in block. Includes a 6 ton hydraulic power pack.

CG80A Wet Sleeve Puller. Manual version of CG80HYA.

CG80-11 Wet Sleeve Insert. 1/4" insert for CG80A/CG80HYA Wet Sleeve Pullers.

CG80-22 Wet Sleeve Insert. 5/16" insert for CG80A/CG80HYA Wet Sleeve Pullers.

M1326B



Idle Adjusting Tool

M1326B Idle Adjusting Tool. For idle speed adjustments on the fuel pump. 1/8" NPT threads, 4 3/4" long.



GA3711



GA3707

Timing Gauge Injectors

GA3711 Cummins Injector Timing Gauge Set. Range is 0" to 1" in .001" increments. Time injectors on Cummins NH, NT, L-10, and V-model engines in or out of the chassis. Set includes two dial indicators, mounting hardware, instructions and CM6543350 plastic storage case.

GA3707 Cummins Injector Adjustment Gauge Set. Range is 0 to 1" in .001 increments. Adjusts injectors on Cummins NH, NT, L-10 and V-model engines in or out of the chassis. Assures accurate and uniform injector plunger travel, uniform timing and fuel distribution, optimum engine performance with maximum fuel economy. Eliminates torque wrench inaccuracies. Set includes indicator with attachments for proper positioning, short post for limited clearances, instructions and CM6546950 plastic storage case.



Injector Brushes

MB5B Bronze Injector Brush. Bronze, non-abrasive brush cleans carbon from injector tips.

MB6BT Stainless Steel Injector Brush. Stainless steel wire brush cleans the injector cavity in the cylinder head. For Cummins B Series Engines and J.I. Case equipment. 9" long.

BNH1 Injector Brush. For Cummins NH Series Engines.



CJ83C



M1324

Pulley Installers and Pullers

CJ83C Pulley and Gear Puller. Ideal for servicing crankshaft pulleys and gears and timing gears on a wide range of gasoline and diesel engines including Cummins accessory drives and water pumps. Includes two each 3/8"-16 x 3", 5/16"-18 x 2 1/2", and M10-1.5 x 65mm bolts. Nominal capacity is 3.5 tons. Use to remove accessory drive pulley (replace with M1324). Includes yoke; two each 3/8"-16 x 3", 5/16"-18 x 2 1/2", and M10-1.5 x 65mm studs; and 3/4"-16 x 5" pressure screw.

M1324 Pulley Installer. For installing the accessory drive pulley on the shaft. Includes 7/8"-14 NC threaded adaptor, washer-type bearing, and installer housing.

PPM516A



SIML200



FTXEL45E



Engine Sockets and Driver

PPM516A Engine Oil Drain Plug Socket. 1/2" square male end with 1/2" drive. Extra strength to remove drain plugs. 1 7/16" long.

SIML200 Jacobs Engine Brake Socket. 5/8" single hex for the stud used for the rocker box on engines equipped with Jacobs engine brake. 1/2" drive, 5" long.

FTXEL45E Cummins Extra Long Torx Driver. Quickly and easily access intake bolts on Cummins N14 diesel engines without removing the air pump. Can also be used on older Cummins NH Big Cam 4 diesel engines. 3/8" square drive.

ST669



Torque Adapter Set

ST669 Torque Adapter Set. Use to loosen and adjust lock nuts to manufacturing specifications.

ST669-1 Handle assembly.

M1302B24 3/4" 12-point socket.

M1302B18 9/16" 12-point socket.

M1302A5 1/2" x .062 screwdriver.

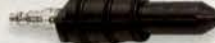
M3540A



M3584



M3541A



M3585



Compression Adaptors

These compression adaptors are for use with the MT33C Compression Gauge on page E21.

M3540A Compression Adaptor. For Cummins 855 cu. in. NH and 903 V8 and L10 diesel engines.

M3541A Compression Adaptor. For Cummins small V8 V555 diesel engines.

M3584 Compression Adaptor. For Case/Cummins Series "B" 2.9L, 3.9L, and 5.9L diesel engines.

M3585 Compression Adaptor. For Case/Cummins Series "C" 8.3L engines.

See page 339 for Cummins Diesel Sets. These sets include many of the tools listed on this page and on page 342 packaged in blow-molded plastic cases.

See Warranty Information on inside front cover.



WARNING

• Read additional safety precautions on pages M1 to M4.



Diesel Detroit Service Tools

SP78



Injector Height Gauges

SP78 Injector Height Gauge. Similar in function to a diesel timing gauge, the SP78 accurately sets the 78.2mm baseline height of the injector for the Series 60 computer-controlled engines. Knurled handle screws in either vertically or at a 90° angle for work in close quarters.

SP80 Injector Height Gauge. Needed to set the 78.8 mm baseline height of the injector on Detroit/Penske 50 Series diesel computer-controlled engines. Knurled handle screws in either vertically or at a 90° angle for work in close quarters.

SP79 Diesel Injector Height Gauge. Accurately set 80.3 mm baseline height of injector on Detroit Diesel 50 and 60 Series engines. Use on 1997 and later DDECIII (Series 60), 1997 DDECIV (Series 60), 1998 Premium DDECIV (Series 60) and DDECIV (Series 50). Handle mounts in-line or perpendicular to the shank for accessing engines equipped with "Jacobs Brake" option. 2 1/8" handle length; 6" overall length. Industrial finish.

SP81 Diesel Injector Height Gauge. Accurately set 81.0 mm baseline height of injector on Detroit Diesel 60 Series engines. Use on 1998 and later DDECIV (Series 60). Handle mounts in-line or perpendicular to the shank for accessing engines equipped with "Jacobs Brake" option. 2 1/8" handle length; 6" overall length. Industrial finish.

FB325A

FB308D

FB328A



Feeler Gauges

FB325A Feeler Gauge Set and Holder. For adjusting governor gap. Includes (25) 1/2" x 3" blades in sizes .0015" plus .002" through .025" in .001" increments.

FB308D Step Feeler Gauge Set and Holder. For adjusting valves. Includes 12 step blades in sizes .0018"/.010" through .028"/.030".

FB328A Step Feeler Gauge Set and Holder. For adjusting valves. Includes two step blades: .011"/.013" and .013"/.015".

Fuel Injector Timing Gauges

Fuel injector gauges measure 3 5/8" long.

M3520 Timing Gauge. 1.460

M3527 Timing Gauge. 1.470

M3521 Timing Gauge. 1.484

M3536 Timing Gauge. 1.50

M3520

M3530

M3531



Governor Gap Wrenches

M3530 Governor Gap Wrench. 3/8" open ends, 4" long. Special thin design with 30° and 60° angle heads.

M3531 Governor Gap Wrench. Similar to M3530 but has 7/16" open ends and is 4 1/4" long.

M3525A

M3503B

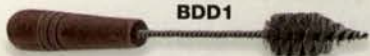


Spanner / Fuel Line Nut Sockets

M3525A Governor Lock Nut Socket. 1/2" drive, 3 7/32" long. Includes 1 1/8" internal hex for use on "Fuel Squeezer" series of engines.

M3503B Fuel Line Nut Socket. 1/2" wrench opening, 6-point, 3/8" drive. Shaped for access to fuel line nuts. 3 1/4" long. Additional applications on the Head Temperature Sensor found on Buell Motorcycles.

BDD1



Injector Brush

BDD1 Injector Brush. Stainless steel wire brush is for cleaning carbon buildup in the injector cup.

M3558



Dial Gauges

M3558 Magnetic Base Dial Gauge. For setting injector height on 53, 71, and 92 Series Engines. Magnetic base holds gauge securely to top of injector. Comes with calibrating block. Includes plastic case. Covered under U.S. Patent No. 4,503,619.

M3563 Dial Gauge. Similar to M3558. For setting injector height on 8.2L engines. Reads both top dead center and base circle timing methods. Includes calibrating block.

M3561



Metric Torque Adapter

M3561 Metric Torque Adapter. For 8.2L head bolts. 14mm wrench size, 12-point, 1/2" drive. Provides clearance around rocker arm assembly.

M3567K



Control Pin Set

M3567K Control Pin Set. For injector rack control lever adjustments. Holds rack rod assembly in position. Set includes two each control pins, rubber straps, and hooks.

M3534A



Throttle Delay Gauge and Ring

Throttle delay gauges measure 4 1/2" long.

M3534A Throttle Delay Gauge. .570

FBFT7 Throttle Delay Gauge and Ring. Holds M3534A Throttle Delay Gauges together for instant access.

M3517B

M3518

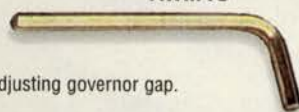


Push Rod Wrenches

M3517B Push Rod Lock Wrench. 1/2" open end, 102° offset handle.

M3518 Push Rod Adjusting Wrench. 5/16" open end, 102° offset handle.

AWM4C



Metric Hex Wrenches

AWM4C Metric Hex Wrench. For adjusting governor gap. 4mm hex. Length 65.5mm.

AWM5C Metric Hex Wrench. For adjusting governor gap. 5mm hex. Length 75.6mm.

M3516A



Fuel / Water Pump Wrench

M3516A Fuel Pump Wrench. For fuel pump, water pump, and governor housing bolts. 1/2" box end, 12-point, 6 3/4" long. Both ends are offset for clearance.

Fan Wrench

SP60 Fan Wrench. 1 7/8" (48mm) wrench services the cooling fan hub retaining nut. Has a 1/2" drive hole for torquing of the fan nut. 15 3/4" long.



Ford Fuel Filter Wrench

YA998 Fuel Filter Wrench. Service 1974 and later Ford 7.3L diesel engines with old style caps (1974 to 1998) and newer style caps (1998 and later). 3/8" square drive. Overall dimensions of 3 5/8" x 7/8" x 1". Chrome finish.



Pulley Puller

SP448 Pulley Puller. For removing the air pump pulley. Fits over pulley flange.



Diesel Pulse Adaptor

MT257A Diesel Pulse Adaptor. Test injector timing or engine RPM on diesel engines equipped with 1/4" or 6mm external steel fuel injector lines. Enables use with inductive pick-up timing light to test engine timing. The MT257A will not work on diesels with common rail fuel systems. The new GM DuraMax diesel engines use this type of fuel system.



GM Water Pump / Fan Clutch Pulley Holder

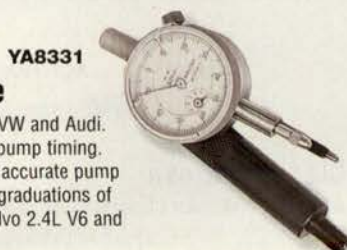
YA6180 GM Water Pump/Fan Clutch Pulley Holder. Use on GM and Ford diesel and gas engines with a 48mm fan clutch nut. Provides the extra leverage needed to remove the fan clutch nut. Overall Length of 20.12" (511.2mm). Head width of 4.12" (104.8mm). Head Thickness of 0.38" (9.5mm).

YA6150 GM/Ford Fan Clutch Holder. The four pins in this tool give the technician greater durability than tools presently available. These pulleys have holes instead of bolt heads to keep the pulley from rotating during installation or removal of the fan clutch assembly. Use with 48mm open end wrench (YA9521) to loosen or tighten the fan clutch on many 2000 and later G.M. trucks. Applications include GM 6.5 L diesel engines (2000 and later) and GM/Isuzu-Duramax 6.6 L diesel engines (2001 and later).



Timing Indicator Gauge

YA8331 Timing Indicator Tool. For VW and Audi. Use to set Bosch diesel fuel injection pump timing. Gives a dial indicator reading to allow accurate pump timing setting. Dial indicator reads in graduations of .01mm. Also use on 1981 to 1986 Volvo 2.4L V6 and 1989-1994 Dodge 5.9L V6.



Compression Adaptors

M3545B Glow Plug Compression Adaptor. For GM 4.3L and 5.7L plus Navistar 6.9L and 7.3L diesel engines. Replacement valve core is M3545A4. Must be used in conjunction with M3569 or M3570 Quick Couplers. For 6.9L diesel engines. Must be used in conjunction with MT33B Compression Gauge and M3569 or M3570 Quick Couplers.

M3545A4 Replacement Valve Core. Replaces valve core on M3545B.



Quick Couplers

M3569 Quick Coupler. 45° offset.

M3570 Quick Coupler. 90° offset.



Injector Brushes

MB5B Bronze Injector Brush. Bronze, non-abrasive brush cleans carbon from injector tips.

MB69 Injector Brush. Stainless steel wire brush cleans the injector seat in the cylinder head.

MB73 Injector Brush. Combination 5/16" and 13/16" diameter stainless steel wire brush to clean the injector bore and injector tip hole in the cylinder head.

Automotive Diesel Service Tools



Metric Injector Sockets

S6122 Metric Injector Socket. For GM 4.3L and 5.7L diesel engines. 14mm, 12-point, 3/8" square drive for C.A.V. type injector. 1 3/4" long.

S6128 Metric Injector Socket. For Bosch type injectors on GM 6.2L diesel engines. 30mm, 6-point. 2 1/16" bolt clearance, 7/16" opening depth, 2 11/16" long. 7/8" external hex on drive end.

S6104B Metric Injector Socket. For VW and Mercedes Benz diesel engines. 27mm, 12-point. Clearance bored to fit over fuel injector. 1/2" drive. 3 1/4" long.

Glow Plug Tool

YA6729 Glow Plug Tool. Use to remove and install hard-to-reach diesel glow plugs on Volkswagen, Audi, BMW, Mercedes, Peugeot and Renault. 8mm and 12mm ratcheting box ends. Reverse lever easily operated with one hand. Offset head design allows access in tight quarters. Chrome finish resists corrosion and speeds clean-up.



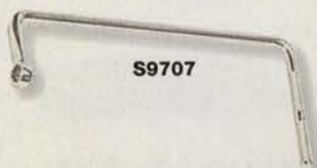
WARNING

• Read additional safety precautions on pages M1 to M4.

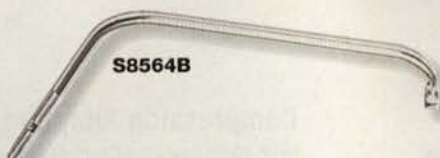


Distributor

Wrenches



S9707



S8564B



S8176



S9482A



S9609



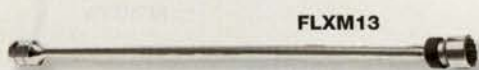
S9838



S9476A



S9622



FLXM13

U.S. Distributor Wrenches

	Stock No.	Application
1/2	S8564B	Ford, Lincoln, and Mercury engines; clears leads and coils.
	S9476A	V8, Chrysler, Dodge, and Ford super-duty trucks.
	S9482A	V8, Chrysler, Dodge, and light duty trucks.
	S9707	Ford, Mercury, and Cadillac engines.
9/16	M3515	GM V6 and V8 trucks.
	S8176	Pontiac and Oldsmobile engines.
	S9609	Chevrolet V8 engines.
	S9622	1977 and later full size GM cars with V8 engines.
	S9626	GM V6 engines.
	S9838	Buick Special and Oldsmobile F-85.

S6002B



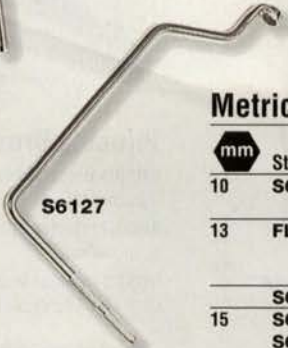
S6134



S6142



S6127

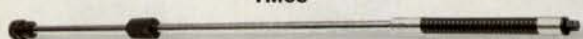


Metric Distributor Wrenches

mm	Stock No.	Application
10	S6002B	Datsun and Mazda cars (also use as a GM diesel fuel pump wrench).
13	FLXM13	All 1981 and later GM four-cylinder engines. Also excellent for 1983 to current Bronco 2.8L Diesel fuel injection bolts on Ford trucks.
	S6142	1981 and later Ford 3.8L V6 engines.
15	S6127	GM "X" body cars with V6 engines (2.8L).
	S6134	1982 and later Cadillac 4.1L V8 engines, GM 2.8L V6 engines, and 1985 VW Golf.

Service Tools

TM65



TM64



MD18B



Adjusting / Aligning Tools

Stock No.	Square Drive, inches	Shaft Length, inches	Overall Length, inches
TM65	1/4	14 1/4	19 3/4
TM64	1/4	16	18 1/4

TM65 Flexible Adjusting Wrench. Features a flexible shaft end for working in restricted areas. Overall length is 19 3/4", 1/4" drive. Ideal for working in tight spaces when servicing window-type distributors. Knob markings allow for counting turns.

TM64 Rigid Adjusting Tool. Features rigid elbow bend rather than flexible feature. Use with carburetor drivers for making carburetor and point adjustments. Rigid shaft. Overall length is 18 1/4", 1/4" drive.

MD18B Distributor Adjuster. Flexible shaft tool has a 1/8" hex speed ball driver for Delco-Remy window-type distributors. 9 5/8" long.

TM615



TM63A



Drivers

TM615 Flexible Driver. Designed for carburetor work, this driver can also access buried distributors. 1/4" drive at the end of a tough but flexible spring steel shank. 18 5/8" long. For low-torque applications. Ideal for access to many buried adjusting screws such as those found in vans with under dash carburetors. 1/4" drive. Cable length is 15"; overall length is 18 5/8".

TM63A Flexible Shaft Driver. 1/4" drive. For low torque applications. For use on Delco-Remy window-type distributors.

ACD12A



Cleaning Brush

ACD12A Distributor Cleaning Brush. Wire brush cleans terminal connections on distributors and coils. 5 1/4" long with a 4" long handle. Wire diameter is .012".

Brake Lathes and Accessories Computerized Balancers

The EEBR309APB Brake Lathe pictured on page E82 and EEWB308A Motorcycle Wheel Balancer on page E84 are incorrectly illustrated. The illustrated products have since been replaced with technology to make your tasks easier, faster and more precise.

EEBR309A Features:

- Supports drums or rotors up to 100 lbs. using the standard 1" (25.4mm) arbor.
- Offers additional spindle travel to 9.875" (250.83mm) for machining wider brake assemblies with increased drum depth and rotor width.
- Independent boring bar twin cutter provides for wider rotor capacity and spider hub rotor machining such as school bus rotors.
- Negative rake toolbits provide cost-effective machining.
- Heavy-duty, oil-fed bronze spindle bearings for precise cuts and long-lasting durability.
- Adjustable spindle and cross feed speeds allow for easy, rough cut/finish cut settings driven by adjustable variable speed gear box with handwheel controls.
- Patented floating spindle design for more precise cuts.
- Quick drum to rotor changeover.
- Twin cutter tool is adjustable for precise depth-of-cut settings and reconditions both brake rotor surfaces simultaneously.
- See-through cutter safety shield and built-in worklight.
- Heavy-duty iron mainframe construction for durability and superior vibration dampening.

EEBR309ABP Lathe with Bench. The industry-standard design of Model EEBR309A has proven its worth in thousands of shops over the years. The massive spindle runs in oil-fed bronze bushings for maximum service life. The twin cutter features independent boring bars to enable simple machining of school bus rotors with spider hubs and wider rotors found on medium trucks plus multiple spindle and feed speeds for easy rough cut/finish cut settings. EEBR309ABP includes AMMC0902500S Bench Kit and AMMC0900002 Basic Adaptor Kit to service hubbed and hubless rotors and drums on passenger cars and light trucks through 1/2 ton.

Visit pages E88 through E95 for our complete offering of Brake Lathes and Brake Service Tools.

EEBR309ABP
Page E88



EEWB308A
Page E84



EEWB308A Motorcycle Wheel Balancer.

FAST AND EASY TO USE

Quickly, easily and accurately hand spin balance motorcycle wheels. Two plane weight display makes the system easy to use and understand. Automatic brake stops the wheel after the measurements are complete allowing the operator time to select weights. Weights and pliers are at your finger tips – 12 pockets for standard weights, one for tape weights or for pliers storage. Automatic distance entry speeds setup time – distance is entered in memory with one touch. Memory permits the storage and instant recall of two of the most often used tire parameters or use by two operators for faster balancing. Petal activated spindle lock holds tire wheel assembly for accurate weight placement. Low balancing speed – less effort to achieve balancing speed.

ACCURATE

VPI (Virtual Plane Imaging) technology provides unsurpassed accuracy.

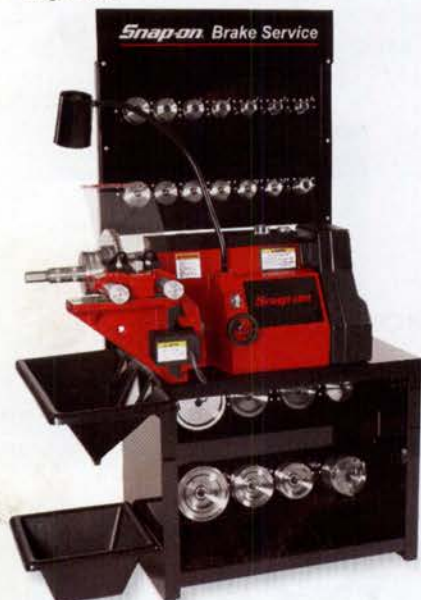
MINIMIZE MAINTENANCE

Self-calibration ensures accurate balancing with minimal outside maintenance expense. Self-diagnostic program reduces maintenance cost. Membrane metal buttons for durability – keep out dirt and grit.

Browse through E83 to E87 to select Wheel Balancing and Tire Changing Equipment that's right for you.

Brake Lathes and Service Tools

EEBR308APB Brake Lathe
Page E88



EEBR308A Brake Lathe
Page E88

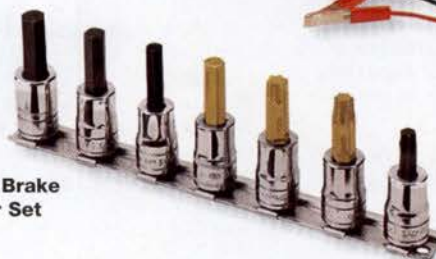


SVT760 Brake Fluid Safety Test Kit
Page E94



BB300B Diaphragm-Type Brake Bleeder Kit
Page E90

BCS70A Disc Brake Caliper Driver Set
Page E91



CF63 Cylinder Hone
Page E95



Wheel Balancers and Tire Changers

WB410 Truck / Automotive Wheel Balancer
Page E85



EEWB304A Motorized Wheel Balancer
Page E83



EEWH302A High Performance Tire Changer
Page E87



EEWH301B Tire Changer
Page E87

Flaring / Cutters / Bending Tubing



Flaring Tool Sets

TF528D Tubing Cutter/Double Flaring Set. Contains TC28C Tubing Cutter and a double flaring set with a flaring bar, rod handle, yoke, and 5 adaptors: 3/16", 1/4", 5/16", 3/8", and 1/2". Plastic storage case included.

TF5 Double Flaring Tool Set. Makes double or single flares on soft steel, brass, or aluminum tubing from 3/16" to 1/2" OD. Makes a smooth fitting, crack free 45° flare. Set includes five adaptors, yoke assembly, bar assembly, and handle. Plastic storage case included.

TFM5 Metric Double Flaring Tool Set. Same design as TF5 except it is for tubing with an OD from 4.75 to 10mm. Set includes yoke, bar assembly, handle, and five adaptors: 4.75, 5, 6, 8, and 10mm.

TF275A Flaring and Swaging Set. 45° Flare or swage soft copper, brass, or aluminum tubing. Die blocks handle 1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 5/8", and 3/4" OD tubing. Swages 3/16", 1/4", 5/16", 3/8", 1/2", 5/8", and 3/4" OD tubing. TF275PB Plastic Storage Case included.

TFM428 Metric Bubble Flaring Tool Set. For automotive brake systems. Designed for crack free bubble flares on soft wall tubing up to a wall thickness of .028". Adaptors included for 4.75, 6, 8, and 10mm flares. TFM428PB Plastic Storage Case included.

TF600A Tube Flaring Set. Quickly and easily fabricate "production quality" flarings found on transmission cooler, fuel, and brake lines. Contains die sets/flaring adaptors for push connect flaring (1/4", 5/16", 3/8") and 45° single/double flaring (3/16", 1/4", 5/16", 3/8", 1/2"). Patented hand held hydraulic press accurately fabricates flares in seconds. Includes plastic storage case.

TF600-1 Manual ram for TF600A Set.

TF600-2 5/16" flaring adaptor for push connect flares.

TF600-3 5/16" flaring die set for push connect flares.

TF600-4 3/8" flaring adaptor for push connect flares.

TF600-5 3/8" flaring die set for push connect flares.

TF600-6 1/4" flaring adaptor for push connect flares.

TF600-7 1/4" flaring die set for push connect flares.

TF600A-8 Cone for 45° single/double flares.

TF600A-9 3/16" flaring adaptor for 45° single/double flares.

TF600A-10 3/16" flaring die set for 45° single/double flares.

TF600A-11 1/4" flaring adaptor for 45° single/double flares.

TF600A-12 1/4" flaring die set for 45° single/double flares.

TF600A-13 5/16" flaring adaptor for 45° single/double flares.

TF600A-14 5/16" flaring die set for 45° single/double flares.

TF600A-15 3/8" flaring adaptor for 45° single/double flares.

TF600A-16 3/8" flaring die set for 45° single/double flares.

TF600A-17 1/2" flaring adaptor for 45° single/double flares.

TF600A-18 1/2" flaring die set for 45° single/double flares.

TF600A-19 Plastic storage case for TF600A Set.

TF1000A Tube Flaring Gun. Make push connect, "OE-style" tube flares on standard 1/4", 5/16" and 3/8" tubing, plus single and double flares on 1/4", 3/16", 5/16" and 3/8" tube. Special adaptor makes ISO flares. Use hand or air ratchet to generate 15 foot pounds of torque to form flares. Includes plastic carrying case.



Cutters

TC28C Tubing Cutter. Cuts soft metal tubing ranging from 1/8" to 1" in diameter. OD capacity is 1/8" to 1 1/8". Micrometer type adjustment. Retractable locking reamer blade. Cutter wheel is easily replaceable.

TC28A1 Cutting Wheel. Extra cutter wheel for TC28C.

TC123C Tubing Cutter. Handles tubing from 1/8" to 5/8" OD. Can be used where clearance around tubing is less than 1 3/8". 1 1/2" long when closed and 2" long when open; feed knob is 7/8" in diameter.

TC123A1 Cutting Wheel. Extra cutter wheel for TC123C.

TC15 Ratcheting Cutter. Use when you don't have swing room. Ratchet action allows cutting all the way around the tubing by simply pumping the handle. Handles 1/8" to 3/8" OD copper, plastic, and PVC tubing-ideal for fuel, vacuum, and air conditioning applications. 3 3/4" long.

TC25 Ratcheting Cutter. This is a larger version of the TC15 and handles 5/16" to 1 1/8" OD tubing, including stainless steel. Use in such applications as van, marine, plumbing, refrigeration, and industrial tubing. 7" long.

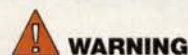


Bending Tools

TBS100 Tubing Bender. Bends tubing up to 1/4" OD. Bends copper, brass, Bundy weld, non-coated brake lines, and more. Comfort grip handle. Length is 7".

TBS200A Multi-purpose Tubing Bender. Makes left, right, or offset bends up to a 90° angle. Degrees shown for accurate bending angle. Handles 3/16", 1/4", 5/16", and 3/8" (4, 6, and 8mm) OD aluminum, copper, and stainless steel tubing. Aluminum unit is 8 1/4" long when opened.

GA244 Tubing Bender. Allows smooth bend without denting tubing. Makes bends to 180° and 13/16". Handles 3/16", 1/4", and 5/16" OD steel and copper tubing. Reversible forming pad. Polypropylene posts minimize friction.



WARNING

- Do not use with air impact wrench.
- Read additional safety precautions on pages M1 to M4.



Exhaust

Expanders / Cutters / Specialty Tools

PH770



Expanders

Tailpipe Expander. For removing crimps caused by U-bolt clamps. Hex nut inside unit is turned to expand sides and push out crimps.

TC55. 1 1/2" to 2 1/2" diameter range.

TC56. 2 1/2" to 3 1/4" diameter range.

PH770 Muffler/Tailpipe Expanding Set. Includes: PH79 Cone Driver 5 11/16" long, and PH77 Cone, 1 1/8" to 3" in diameter. Use air hammer power for efficient muffler and tailpipe expansion. Just a few air hammer blows from the Snap-on® PH2045 or PH2050 Air Hammers will expand the pipe with the small end of the cone inserted.

PH77 Expander Cone. 5 1/4" long. Outside diameter at the small end is 1 1/8"; outside diameter at the large end is 3". 1 1/8" to 3" in diameter.

PH79 Cone Driver. 5/8" diameter. 5 11/16" long.

TC90A



VGP18210



Cutters

TC90A Tailpipe Cutter. Handles on-the-car cutting from 3/4" to 3 1/2" diameter. Sixteen link cutter chain is 12" long. Threaded shaft with cross-piece provides elasticity to help prevent chain wheels from breaking. Ideal for cutting the strut assembly to enable servicing of the strut cartridge.

TC90A1 Replacement Chain. Includes one wheel and one roll pin.

VGP18210 Pipe Chain Cutter. Quickly and easily cuts exhaust pipes with 13 alloy cutting wheels in chain. Can also cut stainless steel, copper and PVC piping up to 3/32" (2.6mm). Locking mechanism helps avoid lateral movement and mis-aligned cutting. Large butterfly screw allows application of greater force to cutting wheels with each series of cuts.

VGP182101 Replacement Chain.

Spark Plug Service Tools

YA824B



YA824STR



SBP5



Boot Pliers

YA824B Spark Plug Boot Pliers. 45° offset jaws. Vinyl coated jaws and handles assure gripping ability. Use only on automotive type ignition systems. 9 1/2" long. Vinyl-coated jaws and handles assure gripping ability. Use only on automotive-type ignition systems. 9 1/2" long.

YA824STR Boot Pliers. Straight jaw version of YA824B. 9 3/4" long.

SBP5 Spark Plug Boot Pliers. Pliers adjust to five different positions for easy access to restricted spark plugs. Internal spring keeps the pliers in the open, ready-to-use position. Vinyl coated jaws and handles. Black industrial finish. 10" long.

SBP3 Boot Pliers. Vinyl coated offset jaw tips will pull most domestic and import spark plug boots, including the back plugs on new-model Porsche and Mercedes Benz. Vinyl covered handles are cushioned for comfort.

YA832



HB5



HB5PK Spark Plug File. Fine, single-cut tungsten file for smoothing or cleaning spark plug and other contact points. Includes two HB5 Spark Plug Files.



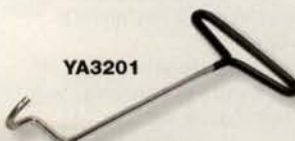
CG5560HY

PH300 Tailpipe/Exhaust Stretcher. Stretches all types of exhaust pipe, including stainless steel, from 1 5/8" to 2 7/16". Designed for use with an impact wrench.

CG5560HY Hydraulic Tailpipe/Exhaust Stretcher Conversion Kit. Converts PH300 Tailpipe/Exhaust Stretcher to the convenience and power of hydraulic operation. Includes the CG122 10-Ton Hydraulic Ram and Pump Set (pg. 324) and hydraulic cone adaptor.

CG5560 Tailpipe/Exhaust Stretcher Conversion Kit. For those that already have the CG122 10-Ton Hydraulic Ram and Pump Set (pg. 324). Just add the CG5560 to the CG122 to add hydraulic power to the PH300. Includes exhaust pipe adaptor and instructions.

YA3201



YA1300



YA3202

Specialty Tools

YA3201 Doughnut Stretcher. One end features an offset hook. For easy removal, use to grab onto the rubber mounting rings or "doughnuts" used in many exhaust systems.

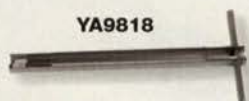
YA1300 Manifold Jack (set of 2). A manifold that has contracted until its mounting holes are out of alignment can be made to fit once more with this jack set. Use to expand manifold to its original shape and bolt hole alignment. Use with a 3/4" open end wrench.

YA3202 Exhaust Hanger Removal Pliers. For removing hanger brackets from their rubber mounting straps. Place removal jaw behind the rubber grommet ring and the forcing pin of the pliers on the end of the steel hanger. When handles are squeezed, the forcing pin pushes the ring off the hanger. Applications on most domestic and import cars as well as light trucks. 14" long.

SBP3



YA9818



YA8230



YA8230 Valve Stem Seal Pliers. Removes valve stem seals from overhead camshaft engines including 4 valve per cylinder engines that have restricted access to the valve stem seal due to the head design. Gripping serrations in the pliers tip easily grab both OEM and aftermarket seals with ease. Easy grip handles.

YA9818 Spark Plug Boot Puller/Installer. Quickly and easily remove and install hard-to-reach steel spark plug boots on VW and Audi vehicles. "T" handle design delivers greater pulling power. Constructed from hardened stainless steel for strength and corrosion resistance. .78" diameter with 12" overall length.

Specialty Tools

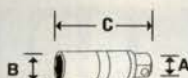
YA832 Spark Plug Firing Indicator. Test spark plugs, coils, and distributors on breaker point and electronic ignition systems. Blunt nose tip prevents lead puncturing. High intensity bulb and viewing window for greater flash concentration. 4 3/4" long.

YA840 In-Line Spark Tester. Quickly diagnose ignition systems. Works on all ignition systems including distributorless ignitions. With engine off, simply remove plug wire from spark plug, connect female end of tester to spark plug, connect male end of tester to the spark plug wire, start engine and check tester light (it will flash if power is being transmitted to plug). Status of indicator light shows if problem exists in the ignition system or fuel system.



FLANK DRIVE® Spark Plug Sockets Spark Plug

S9706KA



S9720KA



Shallow

II	mm	6	A	B	C	Rubber Insert
5/8			3/8	1 1/16	2 27/32	S9706KARI
18mm			3/8	17.5mm	67.1mm	S9706KARI
3/4			3/8	1 1/16	2 13/32	S9705A2
13/16			3/8	7/8	2 3/4	S9705A2
1/2			1/2	7/8	2 1/2	S9705A2
1/2			1/2	7/8	3 1/2	S6106-2R

*ASME/ANSI B107.34M-1997

**Designed for aircraft applications.

Extra Deep (3/8" Square Drive)

II	6	C	Rubber Insert
5/8	S9720KA	5 31/32	S9706KARI
13/16	S9719KA	5 7/8	S9719-2A

ASME/ANSI B107.34M-1997

S9706KMAG



Magnetic (3/8" Square Drive)

II	6	B	C
5/8	S9706KMAG	1 1/16	2 19/32
13/16	S9704KMAG	1 1/16	2 11/16

ASME/ANSI B107.34M-1997

S9706KFUA



Universal (3/8" Square Drive)

II	6	C	Rubber Insert
5/8	S9706KFUA	3 23/32	S9706KARI
13/16	S9704KFUA	3 9/16	S9705A2

ASME/ANSI B107.34M-1997

S9710KA



Ball Joint Swivel (3/8" Square Drive)

II	6	C	Rubber Insert
5/8	S9710KB	3 25/32	S9706KARI
13/16	S9709KB	3 25/32	S9705A2

ASME/ANSI B107.34M-1997

S9721



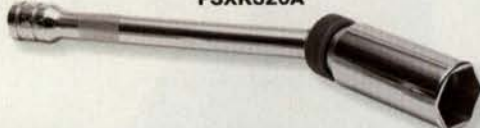
Double Swivel (3/8" Square Drive)

Use double swivel universals for rear spark plug removal or installation on transverse V6 engines.

II	6	C	Rubber Insert
5/8	S9721A	4 13/16	S9706KARI
13/16	S9726A	4 13/16	S9705A2

ASME/ANSI B107.34M-1997

FSXK320A



Flexible Extensions (3/8" Square Drive)

II	mm	6	Shank Length in./mm	Overall in./mm	Rubber Insert
5/8			2 15/32	5 11/32	S9706KARI
5/8			5 15/32	8 11/32	S9706KARI
5/8			11 15/32	14 11/32	S9706KARI
5/8			23 15/32	26 11/32	S9706KARI
13/16			2 7/16	5 3/16	S9705A2
13/16			5 7/16	8 3/16	S9705A2
13/16			11 7/16	14 3/16	S9705A2
13/16			23 7/16	26 3/16	S9705A2
18mm			87.4mm	159.8mm	S9705A2

ASME/ANSI B107.34M-1997

2002SPS



Swivel Socket Set

2002SPS 3/8" Drive Double Swivel Spark Plug Socket Set.

Provides great flexibility in limited access areas. Includes S9721A 5/8" and S9726A 13/16" Sockets.

Magnetic Spark Plug Socket Inserts

Magnetic inserts help prevent damage to spark plug during installation. Inserts install easily to replace worn rubber inserts. Strong rare earth, neodymium magnet keeps insert in socket and firmly holds spark plug in place. Insert may be removed from socket for cleaning. Outside diameter of magnetic insert must be smaller than diameter of socket bolt clearance hole.

Stock No.	Insert Outside Diameter	Socket Wrench Size	Use With Snap-on Sockets
MSA1	0.540"	5/8	FSXK320A, FSXK620A, FSXK2420A
MSA2	0.580"	5/8, 13/16, 3/4, 18mm	S9706KA, S9706KFUA, S9709KA, S9710KA, S9711KA, S9718KA, S9721, S9726
MSA3	0.700"	13/16	FSXK626A, FSXK2426A, S704KA, S704KFUA
MSA4	0.785"	—	No applications available for Snap-on sockets



WARNING

- Do not use chrome or industrial finish hand tools with power drivers.
- Read additional safety precautions on pages M1 to M4.



HAND HELD Products

Technology is moving so fast that nothing surprises us anymore. With today's technology, it seems like engineers can design just about anything. The trick, though, is making the product user-friendly and understandable to the average person, not just an engineer or scientist.

That's where Snap-on® comes in. Our Scanner is the popular product of its kind in the world because it does so many things and you don't have to be a genius to run it. Not only can it help you troubleshoot engines, but it can do transmissions and ABS systems on U.S., European and Asian-built automobiles. It is easy-to-use with its simple, logical design.

We kicked off the next revolution in hand-held meters with our Vantage® digital graphing multimeter. It combines a diagnostic database of information with a simple operating system—it even shows you what good waveforms look like and how to interpret the waveform you're trying to diagnose. Add a KV module and you have a basic automotive scope.

For roadside service, we have the easy to use MicroVat™ Battery Tester and the Portable Power 1700. Individually or as a package, these products put a lot of battery capability in your hands.

The power of technology is awesome. The power to bring it to you is Snap-on®.

Scanner & Cartridges



EECS309A
Portable Power 1700



EETM300F
Vantage® Power Graphing Meter



EEPV309A
Cylinder Leakage Tester



EECS304B
MicroVat™ Battery Tester



SHOP EQUIPMENT

YA3624
Pressure Feed
Abrasive Blast
Cabinet



MT3750
Starting System Tester
(Shown with optional Battery Charger and Cart)



MM250SL
"Muscle MIG" Wire Feed Welder



EEBC302A
Battery Charger



EEAC320A
Air Conditioning
Service Center



PBC33
Parts Washer

Shop equipment is more than another purchase. It's an investment in your business, in your productivity, in your profitability—in your future. Plenty of companies, good and bad, are eager to take your money. The question is, can you find a company with a more solid product line, a better reputation for customer service, and a longer commitment to the business than Snap-on®?

It's not simply that we have been in the business for more than 80 years. Or that we pioneered a great deal of the technology that everyone takes for granted now—like using oscilloscopes to diagnose automobile engines. It's more than aggressive product development, easy-to-use features, and a solid service network. It's our belief that no one works harder to develop the products that will carry you forward, satisfy your customers, and put profit in your pocket than Snap-on®.

Regardless of what you need in shop equipment, there is one clear choice. Snap-on®. Nothing Even Comes Close™.

Diagnostic Modular Diagnostic Information System

EEMS300B02K



EEMS300B02K MODIS™ Modular Diagnostic Information System

Introducing the MODIS™ System, a new and innovative diagnostic platform that allows technicians to pinpoint and diagnose today's sophisticated vehicles faster. The MODIS™ System incorporates the Color Graphing Scanner™ scan tool with Fast-Track® Troubleshooter software, the industry's only experience-based troubleshooting software. The MODIS™ System also features a powerful 4-channel lab scope with Coil-On Plug (COP) and Coil-In Cap (CIC) ignition capabilities plus a powerful Digital Graphing Multimeter built into a common architecture with expandable ports. Fast-Track® component Tests combine MODIS instrumentation with expert information from factory-trained and ASE-certified master technicians to quickly locate, connect, test and troubleshoot components. It's a hand-held diagnostic tool with everything a technician needs for today—and tomorrow.

MODIS™ Software

EEMS320A01 Expand the power of your MODIS™ System to include major European vehicles. Requires Software Bundle 2.0, EESP300A01 operating system or greater. EEMS320A01 version is for MODIS™ Systems with a green edge on PC board, serial number 482HCA-007982 and lower. Includes all needed adaptors, cables and operating manual on CD.

MERCEDES: 1991 and later Mercedes coverage. Models include 190, CLK, CL, C, E, G, M, S, SLK, and SL Series.

BMW: 1988 and later BMW coverage. Models include 3 Series, 5 Series, 6 Series, 7 Series, 8 Series, X5, Z3, Z8 and Mini.

VW/AUDI: 1991 and later Volkswagen and Audi coverage. VW models include Beetle, Cabriolet, Corrado, Eurovan, Fox, Golf, GTI, Jetta, Passat and Vanagon. Audi models include 80, 90, 100, 200, A4, A6, A8, Allroad, Cabriolet, Coupe, S4, S6, S8, TT and V8.

EEMS320A02 Same as EEMS320A01 version except EEMS320A02 software bundle is for MODIS™ Systems with a white edge on PC board, serial number 482HCA-007983 and above. Includes all needed adaptors, cables and operating manual on CD.

MODIS™ Features:

SOFTWARE FOR THE PROFESSIONAL

- Vehicle (Primary) communication software covers GM, Ford and Chrysler/Jeep, Asian imports plus generic OBDII including hundreds of additional codes, data and functional tests.

- Fast-Track® Troubleshooter software covers driveability, transmission and ABS Systems for U.S. domestic vehicles and Asian imports.

FULL DIGITAL GRAPHING MULTIMETER FUNCTIONS

- Selectable meter presets
- Voltage, Frequency, Pressure* (100, 500 & 5000 psi)
- 100 psi Vacuum*, Low Amps (20)*, Low Amps (40)*, Mixture Control Dwell (60), Mixture Control Dwell (90), Duty Cycle, Pulse Width, Injection Pulse Width (*Optional accessory required)

- Digital meter view or graphic meter view or split screen of both

- Adjustable time bases from one second to five minutes

- Live cursors with pinpoint measurements and delta

- Automatic and manual signal threshold detection

ENHANCED SCAN TOOL CAPABILITIES

- Multiple digital parameter views
- View up to 16 live data parameters on one screen
- User selectable 2, 4, 6, or 8 graphic parameter views
- Zoom in on graphic data

- On screen cursor for glitch measurement

ENHANCED LAB SCOPE CAPABILITIES

- User selectable "Peak Detect" for fast rise signals
- On screen changeable volts/time scales display
- On screen multiple level zoom functions

- Enhanced secondary display: time base and glitch capture

ENHANCED UTILITIES SUPPORT

- User selectable display units/screens
- Enhanced power management
- Enhanced system help functions
- Enhanced printer support (HP, Epson, Seiko, Okidata, Canon and more)
- Keyboard support – Input custom file names and descriptions, presets, saved screens and more

CONNECTIVITY AND PORTS

The MODIS™ system uses a flexible modular design and Windows® CE software to provide maximum expendability. Available ports include VGA, serial, USB and an infrared bi-directional printer interface. Compact Flash (CF) slots will open the MODIS™ system to a wide selection of expansion modules including wireless network cards and modems connecting the MODIS™ system to the internet.

EEKR303A



MODIS™ System Accessories

EEMS301A01 Auxiliary Battery Pack.

Keep a spare battery pack charged and at the ready for the MODIS™ System.

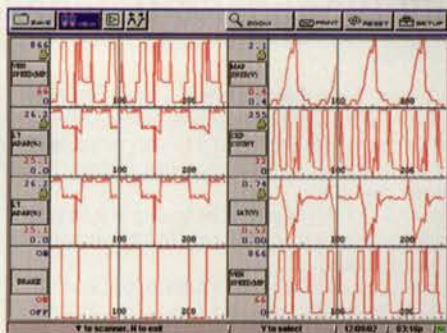
EEMS301A02 Battery Charging Station.

For the MODIS™ System includes 120V converter and power cord.

EEKR303A MODIS™ Cart.

Diagnostic workstation brings all the necessary diagnostic tools and accessories to the vehicle. Rugged molded work top is specifically designed to hold a MODIS™ Digital Information System, Snap-on® Scanner™, Vantage® Power Graphing Meter or MicroVat™ diagnostic tool. Two large drawers for manual and accessory storage. Four, 4" diameter locking casters ensure smooth mobility. Large tray for expanding capabilities. Conveniently fits in a KRL1018 or KRL7010 Docker Locker®.

Modular Diagnostic Information System Diagnostic



SCAN TOOL. The legendary Snap-on® Color Graphing Scanner™ scan tool is included in the diagnostic platform of the future. No other scan tool even comes close to putting this much diagnostic power in the palm of your hand. The Snap-on® Scanner™ scan tool graphs live data and displays complete trouble code descriptions for GM, Ford, Chrysler, Jeep and Asian imports. Optional European software provides live data and complete trouble code descriptions for BMW, Mercedes Benz and Volkswagen/Audi. The MODIS™ system will interface with 1980 and later Domestic, Asian import and European OBD-I and OBD-II compliant vehicles.



LAB/IGNITION SCOPE. The MODIS™ system has the most powerful full-color 4-channel lab scope available. The scope helps help to greatly reduce the diagnostic time associated with intermittent problems by displaying four component signatures and their interaction at the same time—the key to finding the root cause of intermittent problems. It has all the power expected in a full-size digital scope. With its simple controls and menus. Both the experienced and novice technician will use the MODIS™ system lab/ignition scope to diagnose vehicles with fuel injection, sensors and distributorless ignition systems. The latest ignition systems are no problem for the MODIS™ system when using the optional Snap-on® exclusive Coil-On-Plug or Coil-In-Cap adaptors.



DIGITAL GRAPHING MULTIMETER. The MODIS™ system features a built-in, power-packed Digital Graphing Multimeter for the quick, reliable measurements needed for working on today's vehicles. The large easy-to-read digital display shows MIN/MAX display boxes to capture valuable troubleshooting information. The Digital Graphing Multimeter also allows the user to plot individual automotive component signatures in an easy-to-read graphical display. Glitch detection has never been easier for such signals as MAF, TPS, O2 and more. The optional Snap-on® Low Amps Probe (EETA308A) and Pressure/Vacuum Transducers (EPPV302 Series) expand the multimeter's versatility.



FAST-TRACK® TROUBLESHOOTER SOFTWARE. The MODIS™ system comes pre-loaded with exclusive Fast-Track® Troubleshooter Software, the industry's only experienced-based troubleshooting software for Domestic and Asian import vehicles. At the push of a button get VIN-specific "real-world" solutions, tips and repair strategies compiled by ASE certified master technicians for engine, transmission, body, airbag and ABS systems.



MT2500302

MODIS™ Scan Tool Module Accessories

MT2500302 Flat Ribbon Extension Data Cable. Designed for routing under a closed hood, door or deck lid without damaging the cable. The flat ribbon cable is ideal for connecting to underhood diagnostic connectors during a test drive. Can also connect to trunk mounted ABS modules. Cable attaches to any of the adaptors at one end and the scanner or the standard data cable at the opposite end.

MT2500301 OBDII Extension Data Cable. Provides easier access to the Personality Keys™ vehicle ID system and reduces the possibility of the data cable coming loose from the OBD-II connector during testing.



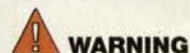
EETA308A

MODIS™ Lab Scope/Digital Graphing Meter Module Accessories

Each Ignition Coil KV Adaptor is custom configured for a specific ignition system to provide an easy and secure connection plus accurate and constant power kV, spark kV and burn time measurements. See page E6.

EETA308A Low Amps Probe. Based on the latest Hall-effect technology. Allows for accurate low amp circuit testing without intrusive wire probing or the need to disconnect the vehicle's battery. Test parasitic draw, ignition coils, injectors, fuel pumps, relays, electric motors and more. Current range: 20A/40A AC peak or DC. Working voltage: 150 VAC RMS or DC.

EEMS301A05 Split Lead Adaptor. Gives MODIS the ability to display up to two pressure measurements and RPM simultaneously in scope mode. Required for use with optional EEPV302 Series Pressure Transducers on page E6.



WARNING

• Read additional safety precautions on pages M1 to M4.

See Warranty Information on inside front cover.

Diagnostic

Vantage® Graphing Digital Multimeter and Diagnostic Database



EETM300F

The Snap-on® Vantage® Power Graphing Meter is the most powerful hand-held component test and diagnostic tool available. Superior to other digital meters, and easier to use and more extensive than any labscope, the VANTAGE® is in a class all its own.

The Vantage® unit combines a graphing digital multimeter with a diagnostic database to give component-specific on-line test information and automatically configures the tool for selected components and tests.

On-screen information for sensor, actuator, and control signal testing specific to the vehicle manufacturer and system is automatically provided. Six-foot extension cable allows operation of the Vantage® from the driver's seat during road testing when using vacuum or pressure transducers. Cable adaptor permits connection of two transducers at the same time.

The Vantage® Multimeter gives you everything you need to become a component test expert in a very short time.

Every EETM300F Vantage® Multimeter includes the EETM301F Vantage® Memory/Software Board, EETA301A/302A/303A alligator clip Test Leads and EETM300APB Plastic Case for storing system components.

MT3000430ASR



EETA300A

Vantage® Accessories

MT3000430ASR Back Probe Adaptor (set of 3). Used for adapting wire harness terminals to alligator clip-type test leads. Helps prevent accidental grounding. U.S. Patent 5,351,002 applies.

EETA300A Inductive RPM Pick-up. Ideal for reading engine rpm on conventional and DIS ignition systems. Use to plot engine rpm on the same screen with sensors and actuators to find intermittent dropouts at varying engine speeds.

Intrusive Circuit Testing Adaptors. High-quality, bed-of-nails, wire-piercing adaptors. These alligator-style popper clips allow circuit testing when back probing is not desired or practical.

TLB6A Straight-nose test clip with black boot.

TLR6A Straight-nose test clip with red boot.

TLBL6A Straight-nose test clip with blue boot.

TLBB6A 15° bent-nose test clip with black boot.

TLBR6A 15° bent-nose test clip with red boot.

TLBBL6A 15° bent-nose test clip with blue boot.

EETM300F Vantage® Power Graphing Meter

- Self-configurable for vehicle and component-specific tests that you select.
- Vehicle and component-specific help is displayed, including connector drawings with pinouts, known good waveforms, common failures and faults, and component operation.
- Graph mode allows viewing of any meter reading as a histogram (over time).
- Supersensitive glitch circuitry captures minimum/maximum readings down to 300-microsecond spikes.
- Database covers domestic, Asian and European vehicles.
- Expanded OBDII Diagnostic database.
- New European database coverage includes Mercedes-Benz, BMW, Audi, VW and Volvo.
- Thirteen Asian manufacturers covered.
- Up to 20 continuous screens may be recorded for data review.
- Up to five screens may be loaded and saved into long-term non-volatile memory.
- Same simple point-and-click operation as the MT2500 Scanner.

EETA301A



EETM301F Version 6.0 Update Board is the latest Vantage™ enhancement software. This board update allows usage of the EETM306A kV Ignition Module along with an increased menu of Vantage™ diagnostic features.

EETA301A Alligator clip test leads (red).

EETA302A Alligator clip test leads (black).

EETA303A Alligator clip test leads (blue).

EETM300APB Stores all components of EETM300D System.

TLB6A



TLR6A



TLBL6A



EESP303B SNAP-LINK® Software. Windows® based software application displays, analyzes and prints live vehicle data plus previously saved data recorded with MT2500 Series Scanners, Vantage® Power Graphing Meters and MicroVAT™ Battery, Starting and Charging Tools. Includes 25-pin to 9-pin adaptor for connection to computers with 9-pin serial port. Software will replay Scanner™ Data Movies, print-out Parameters and Waveforms, view and save Fast Track® Troubleshooter Data and Diagnostic Trouble Codes. Includes direct Link to Tech Hot Line. SNAP-LINK® software package includes installation CD, key diskette, user guide, interface cable and 25 to 9-pin adaptor cable.

Diagnostic

Vantage® Graphing Digital Multimeter and Diagnostic Database

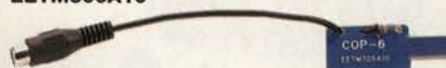
EETM306A06



EETM306A09



EETM306A10



Vantage® kv Module

EETM306A kv Module. Used in tandem with the Vantage® Power Graphing Meter, the EETM306A kv Module provides a simple, fast and effective way to focus on the firing section of the secondary ignition waveform. Provides secondary ignition data as a digital reading or as a histogram to display spark kV, power kV, burn time and waste kV. Works on standard ignitions HEI, DIS and coil-on-plug systems to catch intermittent ignition misfires every time. Kit includes EETA300A Inductive RPM Pick-up, clip-on wire adaptor for conventional and DIS systems, and your choice of one Inductive Pick-up Adaptor. Additional inductive pick-up adaptors are available separately.

Vantage® and MODIS™

Ignition Coil Adaptors (kv Testing)

Each Ignition Coil kv Adaptor is custom configured for a specific ignition system to provide an easy and secure connection plus accurate and constant power kv, spark kV and burn time measurements.

EETM306A03 Ford Coil-On-Plug (COP-1) Ignition Pickup. Fits the 1996-2000 Taurus SHO 3.4-liter, 1997-2000 E and F-Series with 5.4 and 6.8-liter engines, 1998 Mark VIII with 4.6-liter engine, 1998-2000 Crown Victoria, Grand Marquis, and Town Car, and 1999-2000 Mustang.

EETM306A04 Chrysler Coil-On-Plug (COP-2) Ignition Pickup. Fits the 1998-2000 Concord, LHS, and 300M with 2.7, 3.2, and 3.5-liter engines, 1998-2000 Intrepid with 2.7 and 3.2-liter engines, and the 1998-2000 Prowler with 3.5-liter engine.

EETM306A05 Toyota Coil-In-Cap (CIC-2) Ignition Pickup. Fits most Toyota and some Honda coil-in-cap systems. A thumbscrew adjustment allows repositioning one of the side clips to accommodate different size caps.

EETM306A06 GM HEI Coil-In-Cap (CIC-1) Ignition Pickup. Fits all GM HEI system. A thumbscrew allows repositioning one of the side clips so one adaptor can be used on caps with or without a plug wire retainer ring.

EETM306A07 Volkswagen/Audi Coil-On-Plug (COP-3) Ignition Pickup. Fits the 1998-99 VW Passat with 1.8-liter turbo engine, 1997-99 Audi A4 1.8-liter turbo engine, and the 1997-99 Audi A8 4.2-liter engine.

EETM306A08 Acura/Honda/Isuzu Coil-On-Plug (COP-4) Ignition Pickup. Fits the 1996-99 Acura SLX and Honda Passport, and the 1997-99 Isuzu Amigo, Rodeo, and Trooper. Can also be used on the front cylinder bank of the 1994-99 Nissan Maxima with the 3.0-liter engine.

EETM306A09 Volvo/BMW Coil-On-Plug (COP-5) Ignition Pickup. Fits the 1992-97 Volvo 960, 1998 Volvo S90 and V90, and 1999-2000 Volvo S70, V70, S80 and V80. Also fits BMW models with 11-860 series Bremi coils, 0040100002 series Beru coils, and 0221504004 series Bosch coils.

EETM306A10 Mercedes-Benz Coil-On-Plug (COP-6) Ignition Pickup. Fits 1996-99 S600, SL600, and CL600 models with the M120 engine, and 1996-97 E420, S420, S500, and SL500 with the M119 engine.

EETM306A11 Mercedes-Benz Coil-On-Plug (COP-7) Ignition Pickup. Fits 1998-2000 Mercedes-Benz models with the M112 and M113 engines.

EETM306A12 BMW Coil-On-Plug (COP-8) Ignition Pickup. Fits all BMW vehicles with Bremi 11-852 and 11-856 series coils and all BMW vehicles with Zundspule coils.

EETM306A13 Lexus Coil-On-Plug (COP-9) Ignition Pickup. Fits 1998 to 2001 GS400/LS400 models with 1UZ-FE engine, 1998 to 2001 LX470 models with 2UZ-FE engine and all other models equipped with Lexus coil part number 90919-02228.

EEPV302AL



Vantage® and MODIS™ Transducers

The pressure and vacuum transducers provide real-time waveform displays or histograms of pressure readings over various time periods in the multimeter mode. Each transducer includes the EAX0024B30A Extension Cable.

EEPV302AL Transducer Kit. 0-100 PSI. Record min/max reading and graph the fuel pressure under load conditions to diagnose fuel system driveability problems. Includes EAX0024B30A Extension Cable.

EEPV302AT Transducer Kit. 0-500 PSI. Record and monitor hydraulic pressure during transmission operation by tapping into the transmission test ports. Record min/max and plot pressure on the histogram to locate shift problems, flares, slippage and other transmission problems associated with hydraulic abnormalities. For A/C applications, you can record high and low side pressure to measure A/C efficiency on both R12 and R134a systems.

EEPV302AH Transducer Kit. 0-5000 PSI. Use to monitor ABS and power steering pressure as well as high pressure hydraulic systems for heavy duty equipment applications. These include Power Take Off (PTO) pumps that provide hydraulic power for augers, lifts, scoops, porta-power rams, etc. Includes EAX0024B30A Extension Cable.

EAX0024B40A Y-Adaptor. Permits simultaneous connection of two transducers for multiple tests.

EAX0024B30A 6' Transducer Extension Cable. Allows operation of the Vantage® from the driver's seat during road testing. 6-foot length.



WARNING

- Keep flames and sparks away from batteries.
- Read additional safety precautions on pages M1 to M4.



Diagnostic Diagnostic Scanner Tools



MTG25012901



MT25012901

Scanner Kits

MTG25012901 / MT25012901 KIT COVERAGE

- 1980-1/2 and later GM coverage including Saturn (Engine, Transmission, Airbag, and ABS).
- 1981 and later Ford Coverage (Engine, Transmission, Airbag, Body, and ABS).
- 1983 and later Chrysler Coverage (Engine, Body, Transmission, and ABS).
- 1984 and later Jeep Coverage (Engine, Transmission, Body and ABS).
- Fast-Track® troubleshooter tips for Transmission and ABS covering Domestic and Asian Imports require optional software. Optional Asian Import coverage is also available for the 15 most popular makes.
- Generic OBD-II coverage for most Domestic, Asian Import and European through current model year.

MTG25012901 Super-Deluxe Color Graphing Scanner™. The MTG25012901 Super-Deluxe Graphing Scanner™ is the latest member of the MT2500 series Snap-on® Scanner™ product line. All of the powerful diagnostics and troubleshooting features that set the MT2500 Scanner™ apart as the recognized industry leader are still here. Plus now you get the ability to color graph any two or three live data parameters at the push of a single button. The display can be customized for any combinations of parameters. Mix and Match data parameters with the simple thumb wheel or freeze the frame to capture momentary glitches. Need to view a different parameter, simply select and view an alternate parameter while holding the snap shot.

The MTG2500 Color Graphing Scanner™ graphs serial data coming through the ALDL connector. This is processed information from the ECM on the vehicle. A quality graphing multi-meter, such as Vantage® is still required to view live values directly from the component. The Snap-on Scanner along with a Vantage® Graphing Meter provide the complete diagnostic solution.

The Super-Deluxe MTG25012901Kit includes the MTG2500 Color Graphing Scanner™ body, MT25001001 Domestic Primary Cartridge, MT25002901 Domestic Fast-Track® Domestic Troubleshooter for engine driveability diagnosis plus all manuals, cables, adaptors and Personality Key™ in a plastic storage case.

MT25012901 Super-Deluxe Scanner™. No other Scan tool even comes close to putting this much diagnostic power in the palm of your hands. The Snap-on® Scanner™ displays live data and complete trouble code descriptions for GM, Ford, Chrysler, Jeep and many Asian imports. With the complete line of advanced technology Fast-Track® Troubleshooter cartridges, the Scanner has the versatility to test Engine, Transmission, Body, Airbag and ABS systems. All Troubleshooter cartridges feature Fast-Track Data Scan that displays live data along with normal values. The Super-Deluxe MT25012901Kit includes the MT2500 Scanner body, MT25001001 Domestic Primary Cartridge, MT25002901 Domestic Fast-Track® Domestic Troubleshooter for engine driveability diagnosis plus all manuals, cables, adaptors and Personality Key™ in a plastic storage case. Optional cartridges are available for Domestic Transmissions, Asian Import Transmissions, Domestic and Asian Import ABS, and Asian Import Engine Driveability.

MTG2500BASIC Scanner™. Same basic diagnostic capabilities, features and model year coverage as the MTG25012901 Kit dependent upon which diagnostic cartridges and adaptors are added to the kit. The MTG2500BASIC contains only the color graphing scanner body, battery power cable, 12V power cable, data cable and storage case.



MT2500TCK

MT25001001

MT25002901

Domestic Scanner Software

MT25001001 Domestic Combination Kit.

- The Domestic Primary Cartridge kit provides codes and data, engine tests, ABS tests, airbag tests, and body tests for Chrysler, Ford, General Motors, Jeep and Saturn from 1996 through model year 2001. (For vehicles prior to 1996, use the MT25001099 Domestic Primary Cartridge.) Also provides generic OBD-II coverage on compatible systems.
- Includes primary cartridge, Personality Key™ and instruction manuals.

MT25002901* Fast-Track® Driveability Troubleshooter.

- Includes OBD-I Emission-specific Diagnostics and expanded domestic coverage through 2001.
- Thousands of New Code and Symptom Tips for 1980 through 2001 vehicles.
- Experience-based Coverage for Ford, GM, Chrysler and Jeep expanded through 2001.
- Includes cartridge and instruction manual on CD-ROM.

*Last two digits of cartridge stock numbers indicate model year coverage.

MT25006900 Fast-Track® Transmission Troubleshooter.

- Transmission/Transaxle Coverage for Ford, GM, Chrysler and Jeep vehicles from 1981 through 2000 Model year.
- Technical Service Bulletins Through 2000 Model Year.
- Enhanced Fast-Track® Data Scan Tips.
- Expanded Symptom Tips including Hundreds Of Updates To Older Transmissions.
- Hundreds of Transmission Wiring Diagrams.
- Includes Reference Manual on CD-ROM and an Automatic Transmission Wall Chart for visual transmission identification.

Scanner Software

MT25002701 Fast-Track® ABS Troubleshooter.

- Expanded Domestic and Asian import model coverage through 2001. (Requires use of latest release Domestic Primary Cartridge.)
- Expanded code tips, code definitions, code setting information and repair insights.
- Important factory TSB information.
- New functional tests, component and sensor tests and hydraulic bleeding procedures.
- Expanded Asian Import coverage through 2000 including 1994-2000 Kia Models.
- Toyota and Lexus Traction Control (TRAC) and Vehicle Skid Control (VSC) systems codes through 2000.
- New CD version of the User's Manual with hundreds of component locators, connector pinouts, wiring diagrams and other information.

MT25005500 OBDII Vehicle Communication Software with CAN Adaptor.

Reads the complete list of SAE-defined trouble codes. Supports all nine OBDII required codes. Communicates with controller area Network (CAN) vehicles, the standard all vehicles will support by 2008.

MT2500TCK Fast-Track® Training Kit. Created as a diagnostic learning tool, these specially designed Scanner cartridges familiarize users with scantool diagnostics of common engine and transmission driveability problems. The training cartridges contain recorded data taken from actual vehicles, and the Scanner displays the information exactly as if it were connected to the subject vehicles. You can access data, retrieve trouble codes, perform functional tests, and access troubleshooter tips. Simulates real-life diagnostic situations requiring hands-on scantool use. Helps develop systematic and logical troubleshooting approach.

Diagnostic Scanner Tools Diagnostic

MT25001101



MT25001202



MT25002401



MT25006401



European Cartridges

MT25001103* Mercedes-Benz Vehicle Communication Software.

- Provides 1992 through 2003 model coverage with the latest advanced diesel and electronic transmission systems coverage.
- Full engine coverage, including EZ, DM, DM2, LH, HFM, ME1.0, ME2.0, ME2.1, ME2.7, ME2.8, SIM4, as well as EDS/EDC and IFI diesel electronics systems.
- EGS and EAG transmission systems coverage from 1989 through 2001.
- Complete engine and transmission data list.
- Movie feature and data recording capability.
- ECU module replacement version coding.
- Cartridge includes automatic transmission data communication, functional test, adaptation values, clutch fill time, fill cycles, adaptation reset capabilities, transmission controller replacement reflash, and is the only aftermarket tool to access adaptation procedures similar to the factory tool.
- Includes cartridge kit, adaptors, Personality Key™ and instruction manuals.

MT25003103* Mercedes-Benz Prom Update Kit. Upgrades older Mercedes Benz primary cartridges to MT25001103 standard. Includes new PROMs and instruction manuals.

MT25001202* Vehicle Communication Software.

- Diagnostic coverage for more than 400 BMW model configurations from 1988 to 2002.
- Model variations include 3-Series, 5-Series, 6-Series, 7-Series, 8-Series, X5, Z3, Z8 and MINI.
- Quickly review and print important control unit identification information.
- Expanded on-screen parameter descriptions and detailed user manual parameter definitions.
- Retrieve codes for 9 BMW Airbag systems, including the MRS4 Airbag System. Codes with clear definitions to quickly diagnose 10 anti-Lock brake systems including the MK60 ABS system.
- Codes and data for 24 transmission systems is provided including 2002 Electronic Transmission coverage and reset adaptation after ECU and gearbox changes.
- In-depth codes and data for climate control systems.
- Codes, data, actuator tests and functional tests for 36 different BMW engine systems.
- Oil and service light resetting procedures.
- Includes cartridge kit with adaptors, Personality Key™ and instruction manuals.

MT25003202* BMW Prom Update Kit. Upgrades older BMW primary cartridges to MT25001202 standard. Includes new PROMs and instruction manuals.

MT25001302* VW/Audi Vehicle Communication Software.

- 1991-2002 Volkswagen and Audi Coverage.
- Volkswagen Model Variations Include Beetle, Cabriolet, Corrado, Eurovan, Fox, Golf, GTI, Jetta, Passat, and Vanagon.
- Audi Model Variations Include 80, 90, 100, 200, A4, A6, A6 Wagon, A8, Allroad, Cabriolet, Coupe, S4, S6, S8, TT, and V8.
- All Engine, Transmission, ABS, and Airbag Systems are Supported.
- Covers up to 35 Additional On-Board Systems on Equipped Models.
- Powerful, Intelligent Data Groups Quickly Isolate the Parameter Values Required for Diagnosis of Engine, Transmission and Airbag Systems.
- Codes, Data, Actuator Tests, and Functional Tests for 66 VW/Audi Engines, includes Coverage for VW Diesel Systems.
- Advanced Oil and Service Light Resetting Procedures.
- Includes cartridge kit with adaptors, Personality Key™ and instruction manuals.

MT25003302* VW/Audi Prom Update Kit. Upgrades older VW/Audi primary cartridges to MT25001302 standard. Includes new PROMs and instruction manuals.

*Last 2 digits of cartridge stock numbers indicate model year coverage.

See Warranty Information on inside front cover.

Asian Import Cartridges

MT25001401KT* Asian Import Vehicle Communication Software.

- Access the ABS and SRS (airbag) systems on virtually any Asian Import.
- OBD-II Powertrain Codes, both generic and enhanced, for 1998-2001 models.
- Bi-directional Controls for Acura, Honda, Infiniti, Lexus, Mazda, Nissan, and Toyota.
- 1996 to 2001 Mazda, Miata MX5, Milenia and MPV enhanced OBD-II Engine and Transmission Codes plus Data Stream.
- 1995 to 2001 Honda enhanced OBD-II Engine and Transmission Codes plus Data Stream.
- 1996 to 2001 Acura enhanced OBD-II Engine and Transmission Codes plus Data Stream.
- Includes Asian Primary Cartridge, Asian Import Connector Adaptors, complete set of Asian Import OBD-II Keys and 2001 Asian Import Reference Manual.

MT25004401 Asian Import Combination Kit.

- Combines 2001 Asian Vehicle Communications software with 2001 Asian Import Fast-Track® Troubleshooter software in one great diagnostic kit to let technicians benefit from "real-world" solutions, tips and repair strategies.
- Generic OBD-II through 2003.
- Enhanced OBD-II through 2001.
- Hundreds of New Circuit and Wiring Diagrams for OBD-II and pre-OBD-II vehicles.
- Bulletins, service tips and repair strategies through 2000 models.
- Includes Troubleshooter manuals on CD, connectors and adaptors.

MT25002401* Fast-Track® Asian Driveability Troubleshooter.

- At the push of a button get VIN-specific "real-world" solutions, tips and repair strategies compiled by ASE certified master technicians for engine drivability.
- OBD-I Emission-specific diagnostics and expanded Asian Import coverage through 2000 model year.
- OBD-II Emissions Specific Tips 1994-2001.
- Bulletins, Service Tips and Repair Strategies through 2001 Models.
- OBD-I Emissions Specific Tips 1983-95.
- For Use with 2001 Asian Import Vehicle Communication Software covering top Asian Import Manufacturers including Chrysler Imports.
- Reference Manuals on CD.

MT25006401 Asian Import Fast-Track®

Transmission Troubleshooter Vehicle Communication Software.

- Coverage for Acura, Chrysler Imports/Mitsubishi, Geo (1989-1997), Honda, Hyundai, Infiniti, Isuzu/Subaru, Kia, Lexus, Mazda, Nissan and Toyota vehicles.
- Transmission/Transaxle coverage for Asian Import vehicles 1983 through 2001 model year (when used with latest 2001 MT25001401 Asian Vehicle Primary Cartridge).
- Technical Service Bulletins through 2001 model year.
- Expanded symptom tips, including hundreds of updates to older transmissions. Transmission functional test insight.
- Hundreds of transmission wiring diagrams.
- Reference Manual on CD plus Transmission Fluid/Capacity Type Wall Chart.

*Last two digits of cartridge stock numbers indicate model year coverage.



WARNING

- Read additional safety precautions on pages M1 to M4.



Diagnostic Scanner Tools

Scanner Adaptors

Stock No.	Description
MT2500-10	GM-1 Adaptor (12 pin)
MT2500-11	GM-2 adaptor (5 pin).
MT2500-20B	Ford-1A Adaptor
MT2500-30	Chrysler-1 Adaptor
MT2500-31	Chrysler CCD and LH Adaptor
MT2500-40	Nissan-1 Adaptor
MT2500-41	Ground Adaptor
MT2500-42	Multi-2 Import Adaptor
MT2500-43	Adaptor Wire Terminal Kit
MT250046B	OBD-II Adaptor
MT250049	Jeep-1 Adaptor
MT250050	Toyota-1 Adaptor
MT250051	Hyundai-2 Adaptor
MT250052	Toyota-2 Adaptor
MT250053	Mazda-1 Adaptor
MT250055	Mitsubishi-1 Adaptor
MT250058	Nissan-2 Adaptor
MT2500-62	Mercedes Adaptor
MT2500-68	Mercedes/BMW OBDII Adaptor
MT2500-70	Ford ABS Adaptor
MT2500-74	BMW Adaptor
MT2500-75	Mercedes Adaptor
MT2500-77	Honda-1 Adaptor
MT2500-90A	Multi-1 Universal Adaptor

Scanner Keys and Personality Keys

Stock No.	Description
MT50780202	OBDII K-2A Import Key
MT50780701	K-7 Mitsubishi Key
MT50780801	K-8 Chrysler Key
MT50780901	K-9 GM Key
MT50781201	K-12 GM Catera Key
MT50781301	K-13 Chrysler Key
MT50781401	K-14 Nissan Key
MT50781501	K-15 Mitsubishi Key
MT2500S17	Mercedes S-17 OBD Personality Key
MT2500S20	Mercedes S-20 OBD Personality Key
MT2500S21	Mercedes S-21 OBD Personality Key
MT2500S28	BMW S-28 OBD Personality Key



MT2500302



MT2500301

Scanner Accessories

MT2500301 OBD-II Extension Data Cable. Provides easier access to the Personality Key® vehicle ID system and reduces the possibility of the data cable coming loose from the OBD-II connector during testing.

MT2500302 Flat Ribbon Extension Data Cable. Designed for routing under a closed hood, door or deck lid without damaging the cable. The flat ribbon cable is ideal for connecting to underhood diagnostic connectors during a test drive. Can also connect to trunk mounted ABS modules. Cable attaches to any of the adaptors at one end and the scanner or the standard data cable at the opposite end.

MT2500-100 Cigarette Lighter Power Cable.

MT2500-200 Battery Power Cable.

MT2500-300 Extension Data Cable (8').

MT2500-509 VT100 DB-9 to DB-25 PC Cable Adaptor.

MT2500600A Power Pac Kit. The Power Pac Kit provides external battery power to the scanner, independently of the vehicle. Unlike the internal scanner battery, the external power pac provides full scanner power for all available menu choices. The rechargeable Power Pac attaches at the data cable receptacle on the top left of the scanner. The standard data cable then attaches to the Power Pac and is held in place with two captive screws. The Power Pac and data cable can be left attached at all times or removed for storage. Includes the Power Pac charger for quick, overnight recharge.

MT2500-600-2 110 vDC Charger. For Power Pac and Super Power Pack.

MT2500600A1 Scanner Super Power Pack. Does not include 110vDC charger.

MT2639-03 Replacement Batteries.

MTG2500BAT Replacement Battery. For MTG2500 Scanner Series.

MT2500-5000 Data Cable.

MT2500-5002 Blank Cartridge.

MT2500-5003 9V Battery.

MT2500500405 Super Deluxe Carrying Case.



MT2500600A



EESP303B



EESP303B SNAP-LINK® Software. Windows® based software application displays, analyzes and prints live vehicle data plus previously saved data recorded with MT2500 Series Scanners, VANTAGE™ Power Graphing Meters and MicroVAT® Battery, Starting and Charging Tools. Includes 25-pin to 9-pin adaptor for connection to computers with 9-pin serial port. Software will replay Scanner Data Movies, print-out Parameters and Waveforms, view and save Fast Track Troubleshooter® Data and Diagnostic Trouble Codes. Includes direct Link to Tech Hot Line.

Diagnostic Scanner Tool



EESC307B

MicroSCAN™ OBDII Scan Tool

EESC307B MicroSCAN™ Tool. Get the power of a full function OBDII Scan Tool in the palm of your hand. Supports all OBDII modes plus support for CAN with future updates. Fully records and prints movies, data, codes and descriptions. Fully Updateable. Easy-to-reach buttons and handy finger scroll wheel make navigating through intuitive menus as simple as scroll and enter. Features include large backlit LCD with four lines x 20 characters, RS-232 port for connecting serial printer and detachable heavy duty J1962 diagnostic cable. Functions include I/M Readiness, Read Codes, Pending Codes, Erase Codes, View Data, View Freeze Data, O2 Monitor, O-Board Systems Test, Vehicle Information, Modules Present, Print Data and Code Lookup.

Gas Analyzers

Flexible Gas Analyzers

The Snap-on® Flexible Gas Analyzer (FGA) is a highly accurate exhaust gas analyzer that measures and compares emissions levels against limits specified by governmental bodies. Excessive emission levels point to the need for repairs or adjustments. FGA performs double duty as a diagnostic tool before repairs and as a quality control tool after repairs are completed. Ideal for on-the-road driveability testing, as well as in-shop diagnostics, FGA shows results on your preferred display device: pocket PC, desktop PC, laptop or the Snap-on® MODIS™ system. Multiple power sources add convenience for in-shop or on-the-road testing. Use the long-life internal battery (rechargeable with standard wall charger plug-in power supply or vehicle battery), 12VDC source with cigarette lighter adapter or 12VDC direct from vehicle battery.

EMISSION READINGS AND MUCH MORE WITH POWERFUL SOFTWARE FUNCTIONS

- Live readings of HC, CO, CO₂, O₂ and NO.
- Meets or exceeds BAR 97 and European OIML Class 0 standards for accuracy.
- Benchmark Lambda, AFR or grams-per-mile readings help determine combustion efficiency.
- Optional oil temperature probe to monitor engine warm-up, essential for accurate emission readings.
- Optional tachometer to aid in performing emissions testing at various engine speeds.
- Specification database to enable easy comparison of test results to pass/fail limits.
- Store test and customer data – with formatted shop and vehicle ID – for easy retrieval at any time.
- Versatile emissions display options include gas digital, gas graph, custom gas, X/Y plotting and min/max., for easy understanding.

HEAVY-DUTY SAMPLING SYSTEM BUILT FOR CONTINUOUS USE

- Compact, yet powerful sampling system built with dual piston sample pump is comparable in quality and performance to those used on much larger console emissions analyzers.
- Extra-large filter and water trap, with automatic water removal.
- Safety-protected with automatic sample system shutdown in case of excessive water accumulation.
- Fast warm-up response time.
- Virtually maintenance-free with replaceable NO and O₂ cells, and simple user, gas-calibration procedure when needed.
- 20-foot sample hose and durable self-retaining sample probe.
- Compact shock and scratch resistant case – weighs just 10 pounds with built-in battery.

Specifications

HC (Range/Resolution)	0-30,000 ppm @ ±3% accuracy, 1ppm resolution
CO (Range/Resolution)	0-15%, ±3% accuracy, 0.01% resolution
CO ₂ (Range/Resolution)	0-20%, ±3% relative, 0.01% resolution
O ₂ (Range/Resolution)	0-25%, ±5% relative, 0.01% resolution
NO (Range/Resolution)	0-5,000 ppm @ ±4% relative, 1 ppm resolution
Operating Temperature Range	35° to 122°F (0° to 50°C), up to 90% relative humidity, non-condensing
Storage Temperature	-4° to 158°F (-20° to 70°C), up to 90% relative humidity, non-condensing
Power Supply	12VDC
Dimensions	14" x 9" x 8"
Weight, lbs.	10 ¾



EEEE300APD



EAK0213L12A



EAK0213L10A

EEEE300APC PC Software. (PC desk or laptop version) Includes FGA Module, PC Software, Hoses, Probes, Power Accessories, Power Supply and Cable. (PC not included). PC Hardware Requirements: Windows® 95/98/XP/2000, 64MB RAM min, Standard RS232 port, 15MB hard drive disk space min, VGA or SVGA video card and CD-ROM drive.

EEEE300AMO MODIS™ Software. (MODIS™ version) Includes FGA Module, MODIS™ Software, Hoses, Probes, Power Accessories, Power Supply and RS232 Cable. (MODIS™ System not included).

EEEE300APD PDA Software. (Pocket PC version) Includes FGA Module, Pocket PC, Flash Card, Hoses, Probes, Power Accessories, Power Supply and RS232 Cable.

PDA Features:

- Display: 2.5" x 3.25", 320 x 420 color; detachable for viewing at any angle
- Display Control: Touch screen with stylus pen
- Expansion: Open architecture and compact expansion slot accept peripheral devices (modem, bar code reader, etc) designed for PDA
- External Ports: 1 RS232: 1 compact flash slot; 1 infrared port
- Compact, one-hand operation
- Windows® PDA 2002 or later software with ARM microprocessor
- Print Capability via infrared port
- 6VDC power max
- Audio capable

EAK0213L10A RPM Kit. Includes adaptors for connection to spark plug wire, OBD II port or radio frequency (RF).

EAK0213L11A Gas Calibration Kit. Includes adaptors, hoses and gauge. Calibration gas is not included.

EAK0213L12A Oil Temperature Kit. Includes 12-foot temperature probe. Requires EAK0213L10A for use.

EEKR303A MODIS™ Carl. Diagnostic workstation brings all the necessary diagnostic tools and accessories to the vehicle. Rugged molded work top is specifically designed to hold a MODIS™ Digital Information System, Snap-on® Scanner™, Vantage® Power Graphing Meter or MicroVat™ diagnostic tool. Two large drawers for manual and accessory storage. Four, 4" diameter locking casters ensure smooth mobility. Large tray for expanding capabilities. Conveniently fits in a KRL1018 or KRL7010 Docker Locker®.



WARNING

- Keep flames and sparks away from batteries.
- Read additional safety precautions on pages M1 to M4.



Diagnostic Digital Multimeters

Automotive Scopes

MT599AK Automotive Scope. Ideal for validating OBDII sensors and components on today's vehicles. Includes test lead set with alligator clips, inductive pick-up and software disk plus RS232 cable and carrying case.

Features:

- 500 kHz OSCILLOSCOPE: More than enough speed to capture signals from components, sensors and actuators.
- CONTINUOUS AUTOSET: Just connect the test leads and let the scope find the optimal settings.
- 39 REFERENCE WAVEFORMS VALIDATE OBDII SENSORS: Display the reference waveform on the lower display and compare it to the live waveform on the upper display.
- GLITCH CAPTURE: Find spikes in signals that cause most drivability issues.
- TREND MODE: Track readings over time to determine drop out periods of signal.
- 4000 COUNT TRUE RMS DMM: True RMS gives the most accurate readings on ABS sensors. Reading value is shown in top display.
- REL%, COMPARE, RECORD MODES: Advanced DMM modes that help diagnose and troubleshoot problem components or circuits.
- 8 WAVEFORM STORAGE LOCATION: Customize unit with your own set of waveforms.
- SOFTWARE AND RS232 CABLE: Log data or send unlimited custom waveforms directly to computer.



MT599AK



MT586BK



MT596AK



EEDM512CK

Automotive Digital Multimeters

Use in auto, motorcycle, marine and small engine applications. Automotive Digital Multimeters perform basic DMM tests like AC/DC Volts, Continuity, Ohms, Current and Diode plus special automotive testing on Pulse Width, % Duty Cycle, Frequency (Hz), RPM and Temperature. cULus 3111 Listed. CE Conformity. Meets IEC 1010 Safety Standards.

MT596AK Triple Display Multimeter. Triple display automotive DMM with analog bar graph. Includes test lead set with alligator clips, protective boot with tilt stand, inductive pick-up, temperature adaptor with beaded K-type probe and RS232 Interface Cable.

Features:

- Variable Trigger and Noise reduction provide more accurate readings.
- Measure AC Voltage signals on digital MAF, wheel speed and vehicle speed sensors.
- Use DC Voltage ranges to verify proper voltage is arriving at a sensor or circuit.
- Test fuel injector pulse width and carburetor mixture control duty cycle.
- Measure RPM, Dwell and Duty Cycle.
- Measure Ohms to determine resistance of a coil or spark plug wire. Use the diode function to test the diode pack on a typical alternator.
- Measure capacitance of ignition system condensers.
- Temperature Measurements to -40°F to 2498°F (-20°C to 1370°C).
- Read three measurements at once on the triple display analog bar graph. Read RPM, frequency and pulse; RPM, duty cycle and dwell; min/max and cranking voltage; min/max and temperature of AC; and min/max and readings on any function or range.
- Lock two readings on the display at one time with Two-Hold System.
- True RMS plus RS232 Data Port.
- Temperature Measurements to -40°F to 2498°F (-20°C to 1370°C).

MT586BK Digital Multimeter. Automotive DMM with 4000 count analog bar graph display. Includes test lead set with alligator clips, 0.5 and 10 amp fuses, protective boot with tilt stand, hard plastic carrying case, inductive pick-up and temperature adaptor with beaded K-type probe.

Features:

- Variable Trigger and Noise reduction provide more accurate readings.
- Measure AC Voltage signals on digital MAF, wheel speed and vehicle speed sensors.
- Use DC Voltage ranges to verify proper voltage is arriving at a sensor or circuit.
- Test fuel injector pulse width and carburetor mixture control duty cycle.
- Measure RPM, Dwell and Duty Cycle.
- Measure Ohms to determine resistance of a coil or spark plug wire.
- Use the diode function to test the diode pack on a typical alternator.
- Temperature Measurements to -40°F to 2498°F (-20°C to 1370°C).

EEDM512CK Compact Multimeter. Includes test lead set with alligator clips, protective boot with tilt stand, hard and soft carrying cases, inductive pick-up and 10-amp adaptor.

Features:

- Durable, compact DMM.
- Easy-to-read 4000 count display.
- Use DC voltage ranges to verify proper voltage level is arriving at a sensor or circuit.
- Lock readings on display with Data Hold.
- Measure AC voltage signals in digital MAF, wheel speed and vehicle speed sensors.
- Measure RPM with an inductive pick-up, or duty cycle, dwell and frequency and millisecond pulse width of fuel injectors with special automotive test functions.

Digital Multimeters Diagnostic

Digital Multimeters

Use in auto, motorcycle, marine and small engine applications. Digital Multimeters perform basic DMM tests like AC/DC Volts, Continuity, Ohms, Current and Diode. cULus 3111 Listed. CE Conformity. Meets IEC 1010 Safety Standards.

MT594AK Triple Display Multimeter. Full function Triple Display Autoranging DMM. Includes test lead set with alligator clips, 0.5 and 10 amp fuses and protective boot with tilt stand.

Features:

- Back Lit Display.
- Use the Capacitance range for measuring condensers.
- Measure DC current to determine presence of a parasitic load.
- Measure AC Voltage signals on digital MAF, wheel speed and vehicle speed sensors.
- Use DC Voltage ranges to verify proper voltage is arriving at a sensor or circuit.
- Measure Ohms to determine resistance of a coil or spark plug wire.
- Use the diode function to test the diode pack on a typical alternator.
- Optional software and RS232 cable for downloading to a PC.



MT594AK

EEDM504B



EEDM504B Auto-Ranging Digital Multimeter. Autoranging DMM with a bar graph display. Includes test lead set with alligator clips, protective boot with tilt stand and zippered vinyl carrying case.

Features:

- Easy-to-read LCD display and bar graph to view rapidly changing input signals.
- Auto or manual range. Data Hold. Auto Power Off.
- Measure DC current to determine presence of a parasitic load.
- Use DC Voltage ranges to verify proper voltage level is arriving at a sensor or circuit.
- Measure AC Voltage signals on digital MAF, wheel speed and vehicle speed sensors.
- Measure Ohms to determine resistance of a coil or spark plug wire.
- Use the diode function to test the diode pack on a typical alternator.

EEDM503B Non-Auto-Ranging Advanced Digital Multimeter. A durable DMM designed for all basic electrical functions. Includes test lead set with alligator clips, 2 amp and 10 amp fuses and protective boot with tilt stand.

Features:

- Easy-to-read LCD display.
- Lock readings on display with Data Hold.
- Measure DC current to determine presence of a parasitic load.
- Measure AC Voltage signals on digital MAF, wheel speed and vehicle speed sensors.
- Use DC Voltage ranges to verify proper voltage is arriving at a sensor or circuit.
- Measure Ohms to determine resistance of a coil or spark plug wire.
- Use the diode function to test the diode pack on a typical alternator.
- Test continuity of fuses, fusible links, components and circuits.

EEDM503B



EEDM501B



EEDM501B Non-Auto-Ranging Basic Digital Multimeter. Use to diagnose and troubleshoot automotive electrical systems. Takes critical voltage measurements from the battery, alternator and related systems. Measure voltage drop across components such as fan blowers and connectors. Measure the current draw of low amperage systems like electrical control modules. Includes test lead set and compact protective boot with tilt stand. UL listed to standard 3111-1. CE Conformity.

Features:

- Compact, ergonomic design fits comfortably in hand.
- Performs volts, ohms, AC/DC amps, continuity and diode tests.
- Easy-to-read 200 count display.
- Overrange and low battery indicators.
- Data hold function plus audible continuity signal.

MT572 Auto-Ranging Compact Digital Multimeter. Ideal for troubleshooting electrical problems under the dash. Provides easy access to instrument panel connections, brake light switches, turn signal assemblies, and other hard-to-reach electrical systems. Measures DCV, ACV, Ohms, Diodes and Continuity Buzzer. Features data hold function, built-in test leads plus low-battery and overrange signals. Includes a vinyl carrying case. Length of unit with probe: 7" (177.8mm). Test leads length: 32" (812.8mm).



MT572



WARNING

- Keep flames and sparks away from batteries.
- Read additional safety precautions on pages M1 to M4.



Diagnostic Digital Multimeters

MT592 Auto-Ranging Digital Multimeter. Ideal for measuring volts and testing for continuity. Measures AC volts, DC volts and ohms. Performs diode and continuity tests. Features continuity buzzer and data hold. DMM is stored in wallet-size case that easily fits into shirt pocket. CE Conformity.



MT592

MT574



MT574 Auto-Ranging Compact Digital Multimeter. Auto-ranging DMM for basic testing. Includes test lead set with alligator clips, 0.5 amp fuse, protective boot with tilt stand, instruction manual and 9-volt alkaline battery.

Features:

- Easy-to-read 4000 count LCD display with low battery indicator.
- Auto or manual range. Data Hold.
- Measure DC current to determine presence of a parasitic load.
- Measure Ohms to determine resistance of a coil or spark plug wire.
- Use the diode function to test the diode pack on a typical alternator.
- Use DC Voltage ranges to verify proper voltage level is arriving at a sensor or circuit.
- Measure AC Voltage signals on digital MAF sensors, wheel speed sensors and vehicle speed sensors.



Automotive Digital Multimeter Accessories

EETA106A Inductive Pick-Up. For use with MT596AK, MT586BK and EEDM512CK DMM's. Pick-up measures RPM without direct contact with the ignition circuits by using secondary ignition components. Use on most engines with 2- and 4-cycle ignition systems, including waste spark systems. 7' long.

EETA106AL Inductive Pick-Up. For use with MT596AK, MT586BK and EEDM512CK DMM's. Pick-up measures RPM without direct contact with the ignition circuits by using secondary ignition components. Use on most engines with 2- and 4-cycle ignition systems, including waste spark systems. 15' long.

EETA107B Shielded Test Lead. Use with MT596AK, MT586BK, EEDM503B and EEDM504B DMMs. Shielded test leads block out radio frequency interference (RFI). Red and black leads are heat and oil resistant. 6' long.

EETA108B Shielded Test Lead. Use with MT596AK, MT586BK, EEDM503B and EEDM504B DMMs. Shielded test leads block out radio frequency interference (RFI). Red and black leads are heat and oil resistant. 10' long.

MT5830 Amp Adaptor. Allows DMM's to accurately measure up to 30 amps AC/DC by converting the signal to millivolts. Extends the range of current digital multimeters. Measure current draw if individual circuits from fuse box on automobiles, trucks and buses. Measure the parasitic load on the battery. Requires no internal/external power supply. Simply plugs into DMM. Range of 0 to 30 amps.

EETA501B Clamp-On Amp Probe. Turn your DMM into a clamp-on meter. Measures AC and DC currents greater than 10 amps (the limit of most DMM's) without breaking the circuit. Ideal for measuring starter current draw (amps) and automotive current draw. Used with DMMs that have 2V and 200mVAC and DC ranges. Range: 0 to 20 amp on 200mVAC or DC, 0 to 400 amp on 2VAC or DC.

EETA502B Clamp-On Amp Probe. Turn your DMM into a clamp-on meter. Measures AC and DC currents greater than 10 amps (the limit of most DMM's) without breaking the circuit. Ideal for measuring starter current draw (amps) and automotive current draw. Used with DMMs that have 2V and 200mVAC and DC ranges. Range: 0 to 1000 amp AC or DC.

MT10100 Low Current Adaptor. AC/DC low current adaptor for digital multimeters with DC mV Range and 10 mAmps impedance. Measures parasitic current draw on battery cable when key is in the "off" position to indicate component failures or shorts in electrical system. Quickly measures branch circuit draw to isolate the problem area. Safely measures current draw of electrical fuel pumps. Measures from 10 mA to 60 amps.

MTTL501 Probe Extension Set. 8" probe extension for EEDM504B3. Use with most Snap-on® and Blue-Point® Digital Multimeters. Reach connectors under dash or deep in engine compartment. Alligator clips (not included) screw on to probe ends. Fully insulated for user safety.

MTTL502 Insulation Piercing Test Probe Set. Use with most Snap-on® and Blue-Point® Digital Multimeters. Use probes on threaded probe tips. Banana adaptors included so probes can be used on banana plug lead sets.

MTTL503 Test Lead Set. Built-in, bright LED with ON/OFF switch illuminates the work area. Light circuit is isolated from the lead wire for safety. Operates on two (2) internal button batteries. Screw-on accessories are compatible. Patent Pending.

MTTL504 Test Lead Set. 48" fused test leads help protect unfused digital multimeters from electronic damage. They also provide additional protection when measuring high voltage plus simplify fuse changes on fused digital multimeters. Includes test lead set with alligator clips and 5 extra fuses. Overall length is 48" (121.9cm). MTTL5041 replacement 3-Pack of 5 amp fuses is also available.

MTTL5041 Fuses. Replacement 5-amp fuses for MTTL504 Fused Test Leads. Pack of 3 each.

MT5810 Current Shunt. Enables current measurement up to 10 amps on EEDM501B, MT574 and EEDM512CK Digital Multimeters. Adds an additional function to your compact DMM. Existing test leads plug directly into the top of the shunt. Output is 1mV per amp AC or DC.

MT5030 Pressure Adaptor. Measure pressure from 1 to 500 psi & vacuum from 1 to 29 inHg. Ideal for measuring transmission or hydraulic pressure. 1/4" NPT fitting on pressure transducer. Sensor compatible for air or liquid. 6 1/2 ft. (2M) cable length. Output is 1mV DC per psi or inHg.

MTRPMG Digital Multimeter Adaptor. Ideal for small, single cylinder, 2 and 4 stroke gas engine applications. Use with any digital multimeter that has DCmV ranges to measure gasoline engine RPM. Just plug the adaptor into the DMM (set to DCmV function), clip the lead above the engine spark plug boot and multiply the reading by ten. Range is 300 to 6000 rpm. Output is 1 DCmV per 10 RPM. Powered by 9V battery (included).

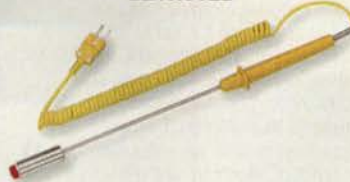
MTRPMD Digital Multimeter Adaptor. Ideal for small diesel engine applications. Measures diesel engine RPM on the IP function when used with EEDM512B, MT586B, MT596B, or MT599A automotive digital multimeters. Just plug the adaptor into the DMM (set to IP), attach the transducer to the fuel line leading to an injector and read RPM on the meter. Range is 300 to 4000 rpm. Resolution is 1 RPM. Powered by 9V battery (included).

Digital Multimeters

EEDM506B



EETH502B



EETH503B



Temperature Probes and Adaptor

EEDM506B Temperature Adaptor. Provides temperature measurement capabilities for digital multimeters without this on-board feature. The output of the EEDM506B equals 1mV per degree. Any DMM with 10 MegOhm input impedance and resolution of at least 1mV (0.001V or 0.1mV) will provide readings from -40° to 500°F.

EETH502B Temperature Probe. Measures surface temperatures. 8" tip.

EETH503B Temperature Probe. Measures air temperatures. 8" tip.

Specialty Meters and Testers

MTWQF



MTOST



MT2700



KEYLESS1



BAGTESTFD



Small Testers

MTWQF Diagnostic Tester. Quickly diagnoses the cause of stalls/no starts on carbureted, injected, distributor and distributorless autos and light trucks with an electronic control module. Easy to use – just connect unit to vehicle, start engine and calibrate. Bright LED will indicate, upon failure, which system to analyze: fuel, ignition or injection. Can be used on no starts, stalling and intermittent problems. Installed memory shows which system tested has the fault. Six foot (180 cm) Teflon leads withstand temperatures up to 400°F (204° C). Full one-year warranty against manufacturing defects. Made in USA. Includes coil-on-plug adaptor and plastic storage case.

MTOST Oxygen Tester. O2 sensor analyzer delivers quick PASS/FAIL result. Diagnoses O2 sensors and related drivability problems without going through the entire CA BAR 100mS Snap Throttle Test using oscilloscope, propane and time consuming procedures. It is the only 3-wire analyzer that tests the ECM and 1, 2, 3 and 4 wire O2 sensors. Full one-year warranty. Includes plastic storage case.

Features:

- Checks and confirms the operation of oxygen sensors by analyzing the analog signal coming from the oxygen sensor to the ECM.
- Results are based on the CA BAR 100mS Snap Throttle Test with a $\pm 5\%$ accuracy.
- Simulates GO RICH or GO LEAN signals to the ECM and simultaneously shows the reaction on the O2 sensor display, confirming ECM control.
- Shows PASS if the O2 sensor jumps from below 175mV to greater than 800mV in less than 100mS, when the throttle is snapped, and shows FAIL if it does not.
- Connects in line with 1, 2, 3 and 4 wire O2 sensor connectors using supplied adaptors.
- Shows oxygen sensor operations in real time.
- Easy-to-use keyboard with over 50 hrs of use on 2 AA alkaline batteries.
- Six foot (180 cm) Teflon leads withstand temperatures up to 400°F (204° C).

MT706



Carbon Monoxide Analyzer

MT706 Carbon Monoxide Analyzer. Monitor and test adjustments effecting carbon monoxide emissions from forklifts and other vehicles and equipment. Rotary vane pump draws sample into unit for fast, accurate reading. Flow Indication warns of restricted emissions flow due to clogged or pinched lines. Auto Zero function. Back lit display for ease of reading in dim light. Includes padded case, filters, exhaust probe and instructions. Range is 0% to 10% CO. Response time is 90% of reading in less than 60 seconds. cULus Listed to Standard 3111-1. CE Conformity.

MT2700 DIS/KV Probe. A quick way to determine the presence and magnitude of spark at the plug on a distributorless ignition system (DIS) or a conventional ignition system in a small, hand-held unit.

BAGTESTFD Ford Air Bag Simulator. Simulators test front seat driver and passenger air bag systems on 1993 to 2000 Ford (NAAO) vehicles except Probe, Villager and 1999 Lincoln. Simulators connect in place of air bag for safe system testing. Set contains one simulator for driver's side and one simulator for passenger's side air bags. Consult the appropriate service manual for usage instructions.

KEYLESS1 Battery Powered Diagnostic Tester. Tests domestic and import vehicle remote transmitters with both IR (infrared) and RF (radio frequency) signals. Diagnoses factory and aftermarket remote systems in about a minute. Simply place transmitter on KEYLESS1 and press the function buttons one at a time. A short tone will indicate that the transmitter's function button is operating correctly; a yellow light will indicate RF frequency, a red light will indicate IR frequency. Can also test garage door openers, audio remotes, TV remotes and VCR remotes. Power supply is 9V battery (included). Overall dimensions are 4 3/8" x 8" x 1 5/8" (111.1 x 203.2 x 41.1mm). Weight is 1 lb. (0.45 kg).

RELAYTEST1



Automotive Relay Tester

RELAYTEST1 Automotive Relay Tester. Quickly and accurately test 4 and 5 terminal electro-mechanical relays used on many domestic and imported automobiles. RELAYTEST1 will interrogate and identify an unknown relay terminal configuration then self-configure its own internal circuitry to perform all required test functions automatically. RELAYTEST1 can be used to perform the following tests: coil resistance, surge suppression device (resistor or diode), open/closed contact integrity, contact cyclic testing for intermittent failure detection, loaded contact continuity, relay contacts stuck open or closed and time to contact closure and opening. Unit automatically indicates test results with a series on red, green and yellow performance lights.



WARNING

- Keep flames and sparks away from batteries.
- Read additional safety precautions on pages M1 to M4.



Diagnostic

Digital AC/DC Clamp-on Meter

EEDM509B Digital Clamp-on Meter. A true RMS meter that provides accurate measurements of nonlinear current, the EEDM509B is designed to measure starting current to 700 amp, as well as volts, resistance, and frequency. Use to diagnose wheel speed sensors, injector control signals, cam and crank outputs, and test cables, connections, and fuses. LCD display and analog bar graph enhance viewing of fast signal changes. Operation in "trim mode" reduces fluctuations in amp, frequency, or voltage readings by displaying 3-second running average. Records maximum, minimum, and average values of RMS current, softened RMS, frequency, or other measurements with Min/Max/Rec function. Meets UL and IEC safety standards. Includes test leads, soft carrying case, battery and instruction manual.

EEDM509B



Specialty Meters

Specifications	EEDM509B
Display Count	4,000
AC Amps	700
AC Volts	600
DC Amps	700
DC Volts	600
Basic DC Accuracy	0.75%
Frequency	10 KHz
Resistance, OHMS	40K
Dimensions (L x W x H) inches	9 x 3.25 x 1.75

Infrared Thermometers

These infrared thermometers safely monitor hot, hazardous, or hard-to-reach materials without contamination or damage to the surface. Simply point at target, pull the trigger, and read the temperature on the large, backlit LCD display.

Applications include:

- Pinpointing radiator core restrictions
- Checking exhaust and emission control problems
- Measuring catalytic converter temperatures

- Diagnosing exhaust manifolds for combustion problems
- Measuring tire temperatures
- Measuring race track temperatures
- Measuring bearing, rotor, drum, or brake temperatures for potential problems
- HVAC-Use for temperature room balancing, check supply/return registers duct work, monitor steam traps, furnace performance plus use in energy audits

Specifications	RTEMP30PB	RTEMP60PB	RTEMP80PB	RTEMPB1/RTEMPB2	RAIMX4A
Temp. Range	-32° to 545°C (-25° to 950°F)	-32° to 600°C (-25° to 1100°F)	-32° to 760°C (-25° to 1400°F)	0-500°F (-18 to 260°C)	-18° to 900° C (-25° to 1600° F)
Temp. Display	0.2°C (0.5°F)	0.2°C (0.5°F)	0.2°C (0.5°F)	1°F or .5°C	°C or °F Selectable, 4 digit backlit LCD
Accuracy	±1% of reading or ±1°C (±2°F)	±1% of reading or ±1°C (±2°F)	±1% of reading or ±1°C (±2°F)	±2% of reading or ±2°C (±3.5°F)	± 1% of reading or ± 1.0° C (± 1.5° F)
Ambient	0° to 50°C (32° to 120°F)	0° to 50°C (32° to 120°F)	0° to 50°C (32° to 120°F)	32 to 120°F (0-50°C)	0° to 50° C (32 to 120° F)
Operating Range					
Repeatability	±0.5% of reading or ±1°C (±2°F)	±0.5% of reading or ±1°C (±2°F)	±0.5% of reading or ±1°C (±2°F)	+/- 2% of reading or +/- 3°F (+/- 2°C)	±0.5° of reading, or ±0.5° C (±1° F)
Emissivity	Pre-set 0.95	0.1 to 1.0 digitally adj.	0.1 to 1.0 digitally adj.	Pre-set .95	30 pre-set listings on board
Response Time	500 mSec	500 mSec	500 mSec	500 mSec, 95% response	—
Distance To	12:1	30:1	30:1	6:1	60:1
Spot Ratio					
Power	9VDC Alkaline or NiCd bat.	9V Alkaline or NiCd bat.	9V Alkaline or NiCd bat.	9 VDC Alkaline or NiCd bat.	9VDC alkaline bat.

RTEMP30PB



RTEMP30PB Infrared Thermometer. Temperature range of -25 to 950°F (-32 to 545°C). Eight point circular laser. 12 to 1 distance-to-spot ratio. Features include: Display Hold function, LCD Backlight and Class II Laser. Includes plastic storage case and wrist strap. CE Conformity.

RTEMP60PB



RTEMP60PB Enhanced Infrared Thermometer. Temperature range of -25 to 1100°F (-32 to 600°C). Eight point circular laser. 30 to 1 distance-to-spot ratio. Functions include MAX, MIN, DIF and AVG Temperature; Data Logging, Recall Last Reading, Display Hold, HI and LO Audible/Visible Alarms, Contact Probe Input, LCD Backlight and Class II Laser. Includes plastic storage case and wrist strap. CE Conformity.

RTEMP80PB Enhanced Infrared Thermometer. Temperature range of -25 to 1400°F (-32 to 760°C). Eight point circular laser. 30 to 1 distance-to-spot ratio. Functions include MAX, MIN, DIF and AVG Temperature; Data Logging, Recall Last Reading, Display Hold, HI and LO Audible/Visible Alarms, Contact Probe Input, LCD Backlight and Class II Laser. Includes plastic storage case and wrist strap. CE Conformity.

RTEMP60EX Contact Probe. Optional accessory for RTEMP60PB and RTEMP80PB Infrared Thermometers.

RTEMP25PB



Infrared Thermometers (Automotive Diagnosis)

RTEMP25PB Infrared Thermometer. Temperature range of -25 to 999°F (-32 to 535°C). Developed for use by professional technicians for special automotive, truck and transportation applications. Bright dual laser sighting system merges into a single laser point (0.5"/13mm at 8"/200mm) when the unit is at the optimal distance from the target object. Backlit digital display. Bright LED flashlight illuminates the work area when the trigger is pulled. Rubber overmold handle for maximum comfort. Removable magnet at the base of the unit for safe, convenient storage. Includes plastic storage case. CE Conformity.

RTEMPB1



RTEMPB1 Infrared Thermometer. Temperature range of 0 to 500°F (-18 to 260°C). Use for most automotive and industrial applications requiring an infrared thermometer. Just aim, pull trigger and read surface temperature. CE Conformity. Does not include laser. RTEMPBPK is optional carrying case.

RTEMPB2 Infrared Thermometer. Temperature range of 0 to 500°F (-18 to 260°C). Same as RTEMPB1 but with laser. CE Conformity.

RTEMPBPK Carrying Case. Rugged and compact carrying case with wrist strap. Optional.

RAIMX4A Infrared Thermometer. Measures temperature ranges of -25 to 1600°F (-30 to 900°C). 60:1 optics. Visually shows the temperature measuring area. Windows® based software for downloading up to 100 stored readings. Features include Celsius/Fahrenheit display, memory recall, locking trigger, audible/visible HIGH/LO alarms, MAX/MIN/DIFFERENCE/AVERAGE temperature readings, bar graph display and 100 points of data logging. 16-point Laser Circle Spot meets IEC Class 2 and FDA Class II requirements. Accessories include 120VAC power supply, thermocouple "K" contact probe, computer interface cable and plastic storage case. CE Conformity.

Specifications	RTEMP25PB
Temperature Range	-25° to 999°F (-32° to 535°C)
Temperature Display	Selectable (°F or °C)
Accuracy (-25 to -15°F/-32 to -26°C)	±5°F (±3°C)
Accuracy (-15 to 0°F/-26 to -18°C)	±4°F (±2.5°C)
Accuracy (0 to 73°F/-18 to 23°C)	±3°F (±2°C)
Accuracy (73 to 95°F/23 to 51°C)	±1% of reading or ±2°F (±1°C) whichever is greater
Accuracy (Above 95°F/51°C)	±1.5% of reading
Repeatability	±0.5% of reading or <±1°C (±2°F) whichever is greater
Response Time	<0.5 second (95% of reading)
Emissivity	Pre-set 0.95
Power	9V Alkaline or NiCd battery
Distance To Spot Ratio	Optimized for use at 8" (203.2mm), Approx. 16:1 at focus point

Tachometers

MT139A



MT137D



MT136A



MTRPM500



MTRPMD500



Tachometers

MT139A Digital Tachometer. Combination contact/noncontact tachometer with 5 data memory storage functions. Noncontact operation uses a photoelectric sensor and reflective tape. Features hi-low measuring capability, data hold time of 1 minute, memory time of 30 minutes, LED indicator, low-battery indicator and over-range display. Powered by 4 AA penlight batteries (included) and comes in a protective case.

MT137D Digital Tachometer. Convenient, hand-held tachometer eliminates hook-ups and indicates 30 to 50,000 RPM on an easy-to-read LCD display. Accurate to ± 1 RPM and has memory recall feature. Powered by 3 "AAA" batteries (included). CE Conformity.

MT136A Digital Handheld Tachometer. Non-contact digital tachometer easily measures rotational speed by bringing the detection head close to the spark plug wires. Accurate rotational speed can be measured to 1 r/min unit. Five-digit LCD screen is readable in outdoor usage. Includes 3 "AAA" batteries.

MTRPM500 Digital Tachometer. Use to digitally read RPM on single cylinder, 2 or 4 stroke gas engines. Can also be used on diesel engines with optional MTRPMD500 RPM Adaptor. Features include ability to choose between 2 or 4 stroke engines and 1 or 2 spark ignition systems. Unit provides MIN/MAX readings with eight (8) storage locations to save readings for future reference. Rugged aluminum housing improves long term durability. Range is 300 to 10,000 RPM. Powered by 9V battery (included). Overall Dimensions are 2.75" x 5.75" x 1" (69.9 x 146.0 x 25.4mm). Includes digital tachometer, gas engine RPM lead and carrying case.

MTRPMD500 Digital Tachometer Adaptor. Optional diesel engine adaptor for the MTRPM500 Digital Tachometer. Use on diesel engines only. Includes RPM leads and transducer. Range is 300 to 6,000 RPM.

Loaded with Benefits:

- High-Tech Internal Circuitry—auto-ranging allows the unit to skip every other flash for a brighter light and longer bulb life.
- Bright, New, High-Intensity Xenon Flash Tube—that is visible even in daylight—and microprocessor-based, digital electronics to back it up.
- Overall Swept-Back Design—for safety and maneuverability. Keeps your hands away from moving engine parts, while the narrow front section allows easy access in tight areas.



MT2261AP

MT2261AP Digital Tach/Advance Timing Light. This sophisticated unit uses computer technology to present three units in one—a built-in digital tachometer, an advance meter, and a timing light. Slim handle design for easy control. Tactile-feel 5-key control panel for zero reset, increment advance, decrease advance, timing light flash button, and tach/advance selection. Easy-to-see LED array displays engine speed or timing degrees at the touch of a switch. Includes PB103B Blow-Molded Black Plastic Case.



MT1221

MT1221 Basic Timing Light. Has the same rocker-type on/off switch as MT1241P. Ideal for setting initial timing and to check for smooth operation of timing advance if an exact value is not required.

MT1221 Specifications

RPM Range	0 to 10,000
Operating Power Range	9V to 16VDC



MT1241P

MT1241P Timing/Advance Light. This instrument is ideal for initial timing, centrifugal advance, vacuum advance, vacuum retard, electronic advance, electronic retard, and electronic advance/retard applications. Includes rocker-type on/off switch. Also includes a rear advance adjustment knob calibrated from 0° to 60°.

MT1241P Specifications

Advance Range	0 to 60° ($\pm 2.5^\circ$ accuracy)
RPM Range	500 to 10,000 (advancing)
	0 to 10,000 (zero advance)
Operating Power Range	9 to 16 VDC



MT125

MT125 Self-Powered Timing Light. Ideal for snowmobiles, motorcycles, jet skis, boats, and other vehicles where the battery is inaccessible or there is no battery to use. Lead length is 3'. Use 2 D batteries (included).

Timing Light Accessories

MT255 Distributorless Ignition Adaptor. Converts the double signal passing through the secondary ignition wires into one signal on most automotive distributorless ignition systems. This allows the inductive pick-up timing lights to monitor timing with the MT1221, or both timing and engine advance with the MT1241P or MT2261AP. A single 9V battery (included) powers the MT255.

MT257A Diesel Pulse Adaptor. Test injector timing or engine RPM on diesel engines equipped with 1/4" or 6mm external steel fuel injector lines. Enables use with inductive pick-up timing light to test engine timing. The MT257A is not for use on diesels with common rail fuel systems.

PB103B Blow-Molded Plastic Case. Compartments for timing light and storing leads. Will fit comfortably in 4" deep drawers.



MT255



MT257A



WARNING

- Keep flames and sparks away from batteries.
- Read additional safety precautions on pages M1 to M4.



Diagnostic Circuit Testers

12-Volt Circuit Testers

CT4G Circuit Tester. For 6 and 12V systems. Can be used to detect power, ground and find shorts and breaks. Replaceable bright white light bulb. 6' cord. Insulated alligator. 3 1/2" long insulated probe. 7 1/4" overall length.

EECT300BG Circuit Tester. Similar to CT4G, green coiled cord extends to 12'.

EECT300BO Circuit Tester. Similar to CT4G, orange coiled cord extends to 12'.

EECT300BR Circuit Tester. Similar to CT4G, red coiled cord extends to 12'.

EECT301B Circuit Tester. Use on 12V systems. Strain relief at handle and clip. Can be powered by the TLS4 and TLS5 Battery Adaptors. 3 1/2" probe length. Black coiled cord extends to 12'.

CT2 Mini Circuit Tester. For easy access to tight places. For 6 and 12V systems. Replaceable bright white light bulb. 6' cord Insulated alligator clip. 1-3/4" long probe. 4-1/2" overall length.

EECT307AG Mini Circuit Tester. Similar to CT2. Green coiled cord extends to 12'.

EECT307AO Mini Circuit Tester. Orange cord. Similar to CT2. Orange coiled cord extends to 12'.



Multi-Volt Circuit Testers

EECT313A Terminal Tester Kit. Non-invasive system tests 6 and 12-volt systems. Terminal-matched tips assure a secure mechanical and electrical connection without damage to the connector. Easy-to-see bright white test lamp for 6 and 12V applications. Flexible rubber probe tips prevent damage and allow access to tight spaces. Crystal clear cellulose-acetate-butylate handle resists most shop chemicals & provides 360° visibility. Adapters are color coded to quickly identify male/female pairs. Lead, tips and blade are well insulated to help prevent accidental shorts. Draws only 50 milliamp @ 12V (steady-state) to protect vehicle circuits. Test kit includes test light with banana plug receptacles at end of blade and end of 6' ground lead designed to receive interchangeable tips, alligator clip, 14 interchangeable male and female terminal adapters suitable for general purpose testing on all major vehicle makes, 6-foot extension and vinyl kit bag. Cord length: 6 ft (180cm), handle length: 5.5" (140mm), operating temperature: 0 to 120° F (-18 to 48° C)

EECT314A Multivoltage Circuit Tester. Compatible with current 12V systems plus newer 42V systems. Safe for low current circuits since tester only draws 3 milliamps @12V. Automatic voltage identification with blue LED for 12V and red LED for 42V systems. Four super-bright LED's for visibility under all conditions. Can be used to detect circuit power and circuit polarity. Insulated shaft and heavy-duty alligator clips help prevent accidental shorts. New crystal-clear handle provides 360° visibility, even in bright light. Extra-long 12' coiled cord. 3 1/2" probe length. 7 1/4" overall length.

EECT320A Spotlight® Circuit Tester. Spotlight prevents short circuits and damage to vehicle connectors. Terminal-matched tips are flexible and fully-insulated. Four inch diameter light dome with bright white test lamp is easy to see at a distance. Dual 42" flexible cords with convenient spool storage for greater job versatility. Bright white visual test light and polarity-sensing audible "beeper" identifies circuit power, ground and polarity. Suitable for 6V and 12-volt automotive applications. Includes test light with two 42" leads, alligator clip, soft vinyl organizer and 14 male/female adapters to provide coverage for all major domestic and import vehicles.

CTS24 Circuit Tester. Ergonomically designed circuit tester features built-in high intensity directional beam. Hot or ground circuits are indicated by LED lights. Audible buzzer sounds when test light is not visible. Maximum probe tip currents: 28V±22mA, 14V±10mA, and 7V±5mA. Coiled cord extends to 10'. Includes 4" extension probe, screw-on alligator clip, banana plug adaptor plus 12V and 24V bulbs all stored in plastic case.

YA5600 Circuit Tester. Ideal for testing hard-to-reach wires. Spring loaded wire hook draws wire to probe point which pierces insulation. Light inside the handle indicates live circuit. 6V to 20V operation. 5 3/8" long with 32" lead.

CT24E Circuit Tester. Same design as CT4G, except it is designed for use on 18 and 24V systems.

CTN10001 Circuit Tester. Cordless unit with no ground wire to deal with. Red LED indicator and audio signal to verify power. Computer and air bag safe. 3-24V DC range. Included battery has 10 year life. Tip cover is included. 6" in length.

Continuity Testers

CTS2 Continuity Volt Tester. Use as a conventional circuit tester or, with a flip of a switch, use as a continuity tester for testing ignition, wires, broken feed or ground, and blown fuse problems. Tests for a range of DC voltage from 6 to 24V. Running LED scale provides accurate tests of alternator output.

YA3179B Circuit Chaser (for Semi trailers). Test the semi trailer plug and cable. Both male and female ends so technician can isolate a fault to trailer or cable. Can temporarily repair short circuits in the shop or on the road. Contains five jumper tabs and one replacement prong.



Short Circuit Locators

YA809 Short Circuit Loader. For use on 12V systems. Quickly finds short or open circuits. Once short is detected the needle stops. Also useful as a continuity tester—any voltage present activates red light. 48" test leads.

CT1000KT Short Circuit Loader/Tester. Locates short circuits in regular and complex 12-volt automotive wiring systems. Rapidly pinpoints short circuits without damage to the wire. Avoids the hassle of removing body and trim components. Simply attach the pocket-size signal generator to the position of the blown fuse. Use the receiver to trace the signal. Short is located when signal disappears from the receiver. Includes instructional CD-ROM.

CT2000KT Short Circuit Loader Kit. Similar to CT1000KT but is used on regular and complex 6, 12, 24, 42 and 48-volt automotive wiring systems.

CT3000KT Short Circuit Loader Kit. Provides diagnostic and test capability for most all types of vehicles: 12 volt automobiles, motorcycles, trucks, boats, and airplanes, 24 volt heavy equipment, 42 volt hybrid electric automobiles, 6 volt riding lawn mowers, and many other 6 to 48 volt DC systems. Trouble shoot automotive and other vehicle electrical wiring and electronics. Use to determine the connectivity of wiring to both ground and positive battery potentials, or alternatively continuity through a wire or electronic component. May also be used to power an electronic device for short durations providing high current paths to both the positive and negative terminals of the battery, selected by the technician, by button press. SPECIFICATIONS: 6 VDC to 48 VDC operation. Source and sink up to 10 Amp loads. 0 °C to 50 °C operating temperature.

Circuit Testers

MTAC110



AC Voltage Sensor

MTAC110 Alternating Current Sensor. Non-intrusive AC Sensor senses voltage from 110 to 600 AC. Use to ensure the absence of current before working on a circuit. Just move the probe tip along an insulated wire, near an outlet, or near a circuit breaker & the tip will glow if voltage is present. (The instrument is so accurate that it will flicker in response to static electricity. This is not to be confused with the steady glow produced by power company voltage.) Uses 2 AAA 1.5 volt batteries (included). Overall length is 5 3/4" (146mm). Easily fits in shirt pocket. Meets OSHA standards. UL Listed.

Logic Probe

EECT500A Logic Tester. Use this high impedance tester to extract trouble codes from fuel injectors, ignition wires, tach circuits, crank angle sensors, and more. Features a ground wire for testing hall effect switches and other sensors not grounded to the vehicular system. Powered by cigarette lighter adaptor or other 12V source. Includes built-in flasher and 4" flexible probe for accessing restricted areas.

EECT500A



Test Leads

TL2



TL3



TL4



Test Leads

TL2 Test Lead Kit. High-grade test lead pair fits all meters using standard banana plug jacks. Nonslip prodding probes have stainless steel points. Coiled cords stretch to more than 60". Screw-on alligator clips convert the leads to jumper wires.

TL3 Test Lead. Heavy-duty pair of jumper leads. Use to connect a power source or a ground to test a fixture in automobile. Heavy-duty alligator clips feature the "bed of nails" concept. Banana plug screws allow use with most multimeters.

TL4 Test Lead. High-grade test leads offer excellent coil memory and can be used with most popular test meters. Leads feature the "bed of nails" concept, wire piercing probe, and alligator-style all-in-one tips.

TL6160



High-Visibility Jump Leads

TL Series High-Visibility Jump Leads. High-grade test leads offer the highest heat and oil resistance and exceptional coil memory. Leads feature a removable "bed of nails" concept. After removal, probe end with 8-32 brass thread allows use of other prod accessories.

TL6160 High-Visibility Jump Lead. Neon orange color, 16' extended length.

TL624G High-Visibility Jump Lead. Neon green color, 24' extended length.

MTTL500



High Grade Test Leads (For Digital Multimeters)

MTTL500 Test Lead Kit. Interchangeable probes permits wider range of testing possibilities. Right angle 48" long test leads are made from double-insulated silicone super flex wire. Spring hooks for use on 16-gauge and smaller bare wire. Alligator clips for attachment to bolts and large wire conductors. Spade terminals for use on terminal blocks. Prods for probing wire ends.

MTA24 Right Angle Test Leads. Test probes and clips just push on--no threading is necessary. Double insulated silicone with 700-strand wire. Flexible in cold weather. Shuttered plugs. 42" (1066.8mm) long. Included in MTTL500 Test Lead Set.

MTA20 Test Probe Set. Test probes with tapered stainless steel tips. Use with MTA24 Test Leads.

MTA70 Alligator Clip Set. Screw-on style alligator clips for use with EEDM504B3. Do not use with MTA24.

MTA75 Alligator Clip Set. Standard alligator clips for use with MTA24 Test Leads. Included in MTTL500 Test Lead Set.

MTA80 Spring Hook Set. Spring hook set for use with MTA24 Test Leads. Included in MTTL500 Test Lead Set.

MTA85 Alligator Clip Set. Heavy Duty flanged alligator clips for use with MTA24 Test Leads.

MT300



TLS7A



Test Lead Kits

MT301A Test Lead Kit. Contains 12", 18", 24", and 10' jumper leads. Use as extension leads or for shorting out components when testing ignition.

MT300 Test Lead Kit. Four color-coded test leads help reduce the chance of wrong connections. Use as test lead, jumper wires, or for shorting out components when performing ignition system tests. Each lead is 4' long.

TLS7A Test Lead and Adaptor Kit. Includes various types of thread-on test clips, probes, and leads to increase the capability of our test instruments. Included are 48" long test leads; probe handles; banana plugs; alligator clips; nylon, spring-loaded hook attachment; and lead adaptors—all in pairs.

TLR6A



TLBR6A



Intrusive Circuit Testing Adaptors

High-quality "bed of nails" wire piercing adaptors. These alligator-style popper clips allow circuit testing when back probing is not desired or practical.

TLB6A Adaptor. Straight-nose test clip with black boot.

TLR6A Adaptor. Straight-nose test clip with red boot.

TLBL6A Adaptor. Straight-nose test clip with blue boot.

TLBB6A Adaptor. 15° bent-nose test clip with black boot.

TLBR6A Adaptor. 15° bent-nose test clip with red boot.

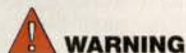
TLBBL6A Adaptor. 15° bent-nose test clip with blue boot.

TLS4



Battery Adaptor

TLS4 Battery Adaptor. 12V cigarette lighter-style adaptor supplies power to circuit testers and scanners as well as to most other 12V-powered devices like car phones and lights. Copper-coated alligator clips with vinyl grips attach to battery terminals. 3' cord length.



WARNING

- Keep flames and sparks away from batteries.
- Do not expose gasoline to flames, sparks, or other sources of ignition.
- Use only in well-ventilated areas.
- Read additional safety precautions on pages M1 to M4.



Diagnostic

Leak Detectors



ACT8080A

Combustible Gas Detector

ACT8080A Combustible Gas Detector. Find leaks in fuel and exhaust systems plus verify integrity of fuel storage containers. Detectable compounds include Acetylene, Iso-Butane (R600a), Methane, Ethane (R170), Propane (R290), Hydrogen, Acetone, Methanol and Gasoline. Product features include automatic warm-up, broad band detection, thumbwheel control, LED leak level indicators, audible signal, adjustable sensitivity and low battery indicator. Includes rechargeable batteries, wall mounted charger and storage case.

Stethoscopes

Mechanic's

GA111D Mechanic's Stethoscope. Locates any engine sound such as bearing noise, knocks, squeaks in fan or water pump, and valve tappets. Has a sound-amplifying diaphragm and a 12" probe to locate trouble.

MST100 Mechanic's Stethoscope. Stainless steel shaft extends to a 36 1/2" (927.1mm) overall length for easy access to hard-to-reach areas. Aluminum sound chamber produces a more natural sound than plastic chambers. Flexible tubing to ear piece aids positioning. Rigid shaft extends keeping hands away from heat and moving parts. Soft comfortable ear piece is replaceable. Comfortable soft grip handle. Probe reverses to fit inside chamber for safe, compact storage. Length Closed with Probe Reversed (11"/279.4mm). Length Closed (15"/381.0mm). Length Extended (36 1/2"/927.1mm).

GA111D



MST100



YA6500



YA6550



YA6800



YA6890KT



YA6400



Electronic

YA6400 Electronic Stethoscope. Highly sensitive microphone and amplifier give full range of sounds without distortion or missing frequencies. No unwanted sounds bleed in. Flexible shaft gets to the tightest areas, and nonconductive coating will not damage expensive computer circuitry.

YA6500 Electronic Stethoscope. Supersensitive microphone in top is attached to a flexible, 9" shaft for hard-to-reach areas. LED light signals when switch is on; earphones block outside noise. Adjustable volume controls. Includes a 9V battery.

YA6550 Electronic Stethoscope. Provides clear, accurate sounds that occur only when a vehicle is under load. Includes six clamp-on independent sensors for attaching to the underside of the vehicle. Each sensor includes 16' long leads and is color coded to correspond with the 6-position, color-coded switch on the control box.

YA6800 Electronic Stethoscope. Features 7-level sound control settings, A-B tone control, high-low volume controls, and battery check position on control stick. Supersensitive microphone in top is attached to a flexible, 9" shaft for hard-to-reach areas. LED light signals when switch is on; earphones block outside noise. Adjustable volume controls. Includes a 9V battery.

YA6890KT Squeak and Rattle Finder. Quickly pinpoints source and location of noises emanating from under chassis, under hood, transmission, differential/CV joint, faulty fuel injectors and bearings, gears and suspension parts. Helps detect and isolate squeaks, rattles, groans, cowl "pops", clunks, growls, thumps, rumbling and ticking noises. Kit includes six channel wireless receiver, four clamp-on wireless inductive transmitters, inductive clamp with super sensitive microphone, four AA batteries, 16 AAA batteries, organizer pouch and molded storage case. Head set for listening is optional.

Features:

- Wireless transmitters feature magnetic body with versatile clip.
- Wireless channel receiver isolates six different transmitter locations.
- LED lights indicate the strength of signal of the active channel.
- Illuminated button indicates active channel at a glance.
- Inductive clamp with super sensitive microphone.
- Adjustable volume control.
- Listen to noises through the built-in speaker or connect through headphone jack using the optional head set.

Borescopes

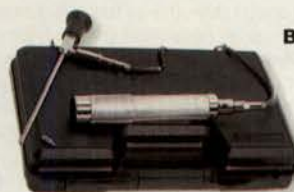
BK100A



BK200



BK150



Fiber Optic

BK100A Fiber Optic Borescope. Look inside valves, manifolds, radiators, doors, dash, rear differentials, etc., to pinpoint problems before removing the component. New extender sleeve adds 35% more light than original model. Lightweight, cordless power handle uses 3 "C" batteries and is ideal for remote locations. Objective lens is mounted directly to the eye-piece, allowing easy focusing from zero to infinity. Inspection area can be magnified up to 6 times. Side View Mirror Tube allows 360° rotation with the touch of a finger. Fiber optic probe gives an 10 x 9.5mm direct view. Simple thumb movement adjusts the light intensity. Includes a 5' remote cord, and probe light with 5" flexible shaft. All components are protected by a foam-lined plastic case.

BK200 Flexible Fiber Optic Borescope. Flexible borescope features a 32" flexible, 9mm shaft protected with a wire-coiled, polyurethane cover to prevent kinking and bending. Focusable, magnified image. Capable of 2-way articulation control of tip—180° up or down. Optional halogen light source available.

BK201 Fiber Optic Borescope. Similar to BK200 except it includes a 2mm channel in the shaft. This will allow use of the unit's optional BK202 Grasping Tool or the optional BK203 Magnetic Tool to retrieve an object while viewing it. Optional halogen light source available.

BK150 Fiber Optic Borescope. Features a sophisticated optical train that conveys a high-resolution image to the user. A 95° field of view is standard—a feature that eliminates the need for slide-on angle mirror tubes.

BK202 Grasping Tool. Use on BK201 with optional BK203 Magnetic Tool to retrieve an object while viewing it.

BK203 Magnetic Tool. Use on BK201 with optional BK202 Grasping Tool to retrieve an object while viewing it.

Vacuum Pumps & Testers

Vacuum Pressure Pump Kit

YA4000A Use to test any part of any system that requires proper sealing or vacuum to operate. Also use to transfer fluids and bleed brakes. Includes replaceable gauge with range of 0 to 30" mercury (0 to 76mm Hg) mounted to a vacuum pump with fluid-resistant valves. Also includes reservoir jar, transfer cap, storage cap, four lengths of 1/4" tubing, one length of 5/32" tubing, assorted adaptors, user's manual, and plastic storage case.

YA4006 Reservoir Jar. Large 16 ounce jar stores and protects contents from contaminants. Threaded jar and lid with ounce and milliliter graduation markings. Three times the capacity of standard jar. Plastic to avoid breakage.



SVT261A

SVT270P



Vacuum Pumps, Gauges and Adaptors

SVT261A Vacuum Pump and Gauge. Gauge reads 0 to 30" mercury (0 to 76 cm). Tester supplies an outside vacuum source for checking vacuum-operated devices: carburetors, EGRs, EPRs, heaters, air-conditioning systems, etc. Includes metal cone, rubber cone, and 2' hose. Packaged in SVT261A1 Plastic Box.

SVT270P Vacuum Pump and Gauge (Reverse Pistol Grip). Gauge reads 0 to 30" mercury (0 to 76 cm). Features aluminum construction with reverse pistol grip for simple one-hand operation. Attaches directly to unit being tested or with one of its adaptors. Packaged in SVT270P1 Plastic Box.

Compression Gauge Sets and Adaptors

Compression Gauge Sets

MT308L Compression Gauge Set. Tests spark-ignited gasoline engines that do not exceed 250 PSI compression. Gauge assembly features 3" diameter gauge and 25" flexible hose with quick coupler. Test range is 0-250 PSI (0-1700 kPa) in 5 PSI (35 kPa) increments. Gauge displays individual cylinder pressure. Provides 3-2-3 accuracy: 2% of full scale reading in the middle 50% of the dial scale and 3% for the remaining high and low ranges. Adaptors accommodate both flat and tapered spark plug hole seats. Includes compression gauge and hose assembly, M14 x 1.25 (14mm) standard reach adaptor, M14 x 1.25 (14mm) long reach adaptor, six check valves and PB128 Plastic Storage Case.

EEPV303A Motorcycle Compression Gauge Set. Tests virtually all motorcycle and recreational vehicles with spark-ignited gasoline engines that do not exceed 250 PSI compression. Gauge assembly features 3" diameter gauge and 25" flexible hose with quick coupler. Test range is 0-250 PSI (0-1700 kPa) in 5 PSI (35 kPa) increments. Gauge displays individual cylinder pressure. Provides 3-2-3 accuracy: 2% of full scale reading in the middle 50% of the dial scale and 3% for the remaining high and low ranges. Impact-resistant gauge boot. Adaptors can be used on both flat and tapered spark plug hole seats. Includes compression gauge and hose assembly, M10 x 1 (10mm) standard reach adaptor, M14 x 1.25 (14mm) standard reach adaptor, M12 x 1.25 (12mm) long reach adaptor and six check valves in PB134 Plastic Storage case. All adaptors are 10 1/4" long.

MT308L



EEPV303A



EEPV305A



MT26J200R



Compression Gauge Adaptors

EEPV305A Motorcycle Compression Gauge Adaptor. M10 x 1 (10mm) long reach flexible adaptor for both flat and tapered spark plug hole seats. 10 1/4" long. Use with EEPV303A Motorcycle Compression Gauge Set.

MT26J200R Compression Gauge Adaptor. M14 x 1.25 standard-reach, flexible adaptor is for both flat and tapered spark plug hole seats. Adaptor is 10 1/4" long.

MT26J300R Adaptor. M14 x 1.25 long-reach, flexible adaptor is for both flat and tapered spark plug hole seats. Adaptor is 10 1/4" long.

MT26J400 Adaptor. M18 x 1.5 standard-reach, flexible adaptor is for flat spark plug hole seats. Adaptor is 10 1/4" long.

EEPV306A Adaptor. 12mm adaptor is also useful for motorcycle engine service. 10 3/4" long.

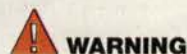
MT27B



Cone-Type Compression Gauges

MT27B Cone-Type Compression Gauge. Dial reads from 0 to 250 PSI in 5 PSI increments (0 to 1700 kPa in 20 kPa increments) and is specially designed for Type I VWs. Offset stem overcomes clearance problems. Check valve is located at bottom of unit to avoid interference with cooling shroud sheet metal. Includes MT27BR Service Kit.

MT27BR Gauge Service Kit. Included with MT27B Gauge. Contains cone tip, valve, and sealing ring in a drawstring bag.



WARNING

- Do not expose gasoline to flames, sparks, or other sources of ignition.
- Use only in well-ventilated areas.
- Read additional safety precautions on pages M1 to M4.



Cylinder Leakage / Engine Vacuum Gauges and Tester

EEPV309A



Cylinder Leakage Tester

EEPV309A Cylinder Leakage Tester.

Designed for use on all domestic and import engines. Input pressure gauge displays input air pressure for proper cylinder leakage test set-up and accurate results. Pressure gauge range is 0-100 PSI (0-700 kPa) in 2 PSI (20 kPa) increments. Cylinder leakage gauge displays leakage as a percentage of input pressure with three distinctive zone of HIGH, MODERATE and LOW. 14mm standard and long length thread adaptors for connection to spark plug threads. Includes plastic storage case.

Vacuum Pressure Gauge Set

EEPV311A



Use for almost all basic vacuum pressure testing needs in the shop. Perform engine vacuum tests on all auto and truck gasoline engines as well as exhaust back pressure tests on applications with an oxygen sensor. Will also test vacuum accessories and emission control devices, such as EGR valves canister purge systems, AIR switching and divert valves, vacuum delay and check valves, heater and A/C controls and cruise control systems. Multi-color gauge face with scales of in., Hg., PSI, negative kPa and positive kPa. Set includes gauge, boot and hose, T-fitting vacuum adaptors, exhaust back pressure adaptors, instructions and plastic storage case.



DANGER

- Pressurized, flammable liquid; avoid ignition.
- Read additional safety precautions on pages M1 to M4.



Diesel Compression

Gauge

MT33C Diesel Compression Gauge. Dial reads from 9 to 800 PSI and from 0 to 5500 kPa. Gauge includes 18" hose with release valve.

MT33C



Compression Adaptors - Injector Style

EEPV313A Diesel Compression Gauge Adaptor. For 1998 to 2002 Dodge 24-valve 5.9L Cummins plus 5.9L Cummins ISB and ISBE diesel engines.

M3540A Compression Adaptor. For Cummins 855 cu. in. NH and 903 V8 and L10 diesel engines.

M3543A Diesel Compression Gauge Adaptor. For Detroit 53, 71, 92, and 8.2L diesels.

M3541A Compression Adaptor. For Cummins small V8 V555 diesel engines.

M3542A Diesel Compression Gauge Adaptor. For Volkswagen, Mercedes Benz, Volvo, and Audi 5000 diesel engines.

M3571 Diesel Compression Gauge Adaptor. For 21mm injectors and Bosch-type injectors on the following diesel engines: Allis Chalmers 433, 649, and 670, Allis/Fiat 3-cylinder, John Deere 404, 466, 531, and 619, Navistar 361 and 407, Perkins 4.203, 4.236, 4.248, 6.354, and 8.540, Wisconsin Engine 340, 350, 430, 660, 670, 750, 860, and 1000, White Engine D2000, D2300, D3000, D3400, and D4800, Mack 673, 674, 675, 864, 865, and 866, Waukesha diesel engines, Ford Tractor diesel engines, Scania DN11 and DS11.

EEPV313A

M3540A

M3543A

M3541A

M3542A

M3571

M3572

M3574

M3584

M3585

M3572 Diesel Compression Gauge Adaptor. For pencil-type injectors on the following diesel engines: Caterpillar 3208 and 1100 Series, Case 70 Series, 188 and 207 c.i.d., John Deere early 300, 400, and 500 Series, 276, 404, and 531 c.i.d.

M3574 Diesel Compression Gauge Adaptor. For 17mm injectors on Navistar DT466 and 9L, 312, 360, 414, 436, and 446 c.i.d. diesel engines.

M3584 Diesel Compression Adaptor. For Case/Cummins Series "B" 2.9L, 3.9L, and 5.9L diesel engines.

M3585 Diesel Compression Adaptor. For Case/Cummins Series "C" 8.3L engines.

M3545B

M3569

M3570

M3564

M3565A

M3566

M3576

M3577

Compression Adaptors - Glow Plug Style

EEPV312A Glow Plug Compression Adaptor. For GM Duramax 6600 and Isuzu 6.6L diesel engines. Requires M3569 or M3570 Quick Coupler.

EEPV314A Glow Plug Compression Adaptor. For Ford / Navistar 7.3L Powerstroke diesel engines.

EEPV315A Glow Plug Compression Adaptor. For Volkswagen 1.9L TDI diesel engines.

M3545B Glow Plug Compression Adaptor. For GM 4.3L and 5.7L plus Navistar 6.9L and 7.3L diesel engines. Replacement valve core is M3545A4.

Must be used in conjunction with M3569 or M3570 Quick Couplers. For 6.9L diesel engines. Must be used in conjunction with MT33B Compression Gauge and M3569 or M3570 Quick Couplers.

M3569 Quick Coupler. 45° offset.

M3570 Quick Coupler. 90° offset.

M3564 Glow Plug Compression Adaptor. For GM 6.2L diesel engines.

M3565A Glow Plug Compression Adaptor. For Isuzu 1.8L and 2.2L diesel engines and Toyota 1.8L diesel engine.

M3566 Glow Plug Compression Adaptor. For Toyota and Nissan 2.2L diesel engines, plus Mitsubishi 2- and 3-cylinder engines.

M3576 Glow Plug Compression Adaptor. For BMW 2.4L engines used in 1984 and 1985 Lincoln, Mark VII, and Continental models; Peugeot 1978 to 1984, 2.0L and 2.3L engines; VW, Audi, and Volvo 1.5L, 1.6L, 2.0L, and 2.6L engines.

M3577 Glow Plug Compression Adaptor. For Toyo Kogyo 2.2L engine used in Ford Ranger pick-ups, Ford/Mazda 2.0L engines used in 1984 and 1985 Escort, Lynx, Tempo, and Topaz.

Fuel Injection Diagnostic

EEFI Series Adaptor Sets

EEFI301B Master Fuel Injection Adaptor Set.

- Adaptors for multiple locations on the fuel system loop allow the operator to select the easiest-to-access location for testing.
- Designed to be used on all systems with and without test ports.
- Fuel Pressure Gauge Assembly features a 2 1/2" diameter gauge, 19" manifold and hose assembly with quick connectors for connection to a range of adaptors.
- Test Range: 0-100 PSI (700 kPa) in 5 PSI (50 kPa) increments.
- 2-1-2 Accuracy: 1% of full scale reading on the middle 50% of the dial scale, 2% for the remainder of the high and low ranges.
- Impact resistant gauge boot offers non-scratch protection for automotive surfaces.
- Quick coupler connections between hoses and adaptors for easy use.
- Master Set includes adaptors for 95% of the most popular fuel injection applications.
- Quick pressure readings are available on vehicles without test ports but with a cold start injector (with EEFI302A Set).

This Fuel Injection Pressure Test Set tests both mechanical injection systems (CIS) and electronic solenoid injection (TBI, CFI, CPI, PFI) on domestic and import vehicles. Set contains a complete selection of adaptors to perform in-line testing of the fuel delivery system at multiple locations to isolate problems caused by restrictions or defective components. Measures pressure before and after the fuel filter, between body mounted fuel line engine mounted fuel rail, at test port in the fuel rail, and return line fuel pressure (with EEFI303A Return Line Adaptor Set). Adaptors available for testing at the fuel filter inlet and outlet, engine body supply and return, fuel rail supply and return, and via the test ports (if available). For Bosch CIS/K-Jet mechanical injection systems, tests fuel delivery rate, system pressure, control pressure, and rest pressure (with EEFI302A Adaptor Set). Set comes complete with a manifold and gauge assembly with ball valve, test ports and all adaptors needed to test most fuel injection delivery systems. Set also contains o-rings, protective caps, valve cores and washers to maintain the adaptors and manifold assembly.



EEFI303A



EEFI302A



EEFI302A Fuel Injection Adaptor Set. Set contains adaptors for less popular fuel injection systems. Ideal for shops specializing in fuel injection services on import vehicles.

EEFI303A Fuel Injection Return Line Adaptor Set. Set contains adaptors needed to "T" into return lines of the fuel delivery system. Provides additional return line coverage when used with EEFI301B.

EEFI304A Low Pressure Fuel Injection Test Gauge. Gauge reads from 0-30 PSI (0-220 kPa). Provides for accurate testing of fuel systems that run at lower pressures. Typically these are throttle body injection systems with fuel pressure ranges of 9 to 13 PSI.

MT337B



MT290



System Tester

MT290 Electronic Fuel Injection Tester Set. Use in conjunction with any 100 PSI fuel injection pressure gauge, such as MT337B, for checking individual fuel injectors without removing them from the engine. Self-contained switches turn on vehicle's fuel pump to prime the system and then turn on the injectors at either a normal or high flow rate. This tester is not for use with throttle body injectors (TBI).



WARNING



- Do not expose gasoline to flames.
- When servicing M85 fueled vehicles, make sure that any component that is installed is compatible with methanol and methanol-blended gasolines.
- Use only in well ventilated areas.
- Read additional safety precautions on pages M1 to M4.

Pressure Gauge

MT337B Fuel Injection Pressure Gauge Set. Perform fast and accurate fuel pressure tests on fuel-injected vehicles with Schrader-type test ports. Features gauge, hose, and locking quick coupler assembly. Large, dual-scale gauge has a range of 0 to 100 PSI in 1 PSI increments and 0 to 700 kPa in 10 kPa increments. Also includes two test adaptors, one for Ford vehicles and one for GM and Chrysler/Jeep. Applications on some imports also. Comes in PB149 Blow-Molded Plastic Box.

See Warranty Information on inside front cover.

Diagnostic Fuel Injection

FUELKARE™ Fuel Service System

- Microprocessor allows the unit to work unattended upon setup.
- Complete adapter set accommodates most domestic and import models.
- One minute increment digital display timer.
- Emergency STOP button.
- System polarity warning light.
- Touch pad style START/FILL/PURGE buttons for prolonged life and easy cleanup.

- Large, easy-to-read digital pressure and vacuum display.
- Precision fluid level indicator in 4 oz. increments.
- Built-in recessed bottle and wand holder.
- Three adapter storage drawers.
- Rugged composite enclosure.
- Nylon reinforced Hytron service hoses are flexible in most weather conditions.

EEFS305A FUELKARE™ Fuel Service System. Perform fuel system diagnostics and cleaning in minutes on carbureted, fuel injected and throttle-bodied systems used on most popular domestic and import cars and light trucks. Cleans and removes gum, varnish and other harmful deposits from automotive fuel systems through the use of a highly effective detergent/cleaning solution. Automatically test the integrity of fuel system components prior to starting service. Unit connects to the vehicle's fuel system and circulates a blend of fuel and premium fuel system cleaning solution through the entire system. The swift, open/close cycle of the solenoid actuator applies and releases pressure to the fuel system's fluid lines. The pulsing, agitating action helps dislodge dirt particles, silt and other contaminants from intake to exhaust. The result is cleaner, more efficient fuel injectors, fuel rails, combustion chambers and intake valves. Unit can be used with a single line connection or a two-line connection for more complete service.

EEFS305ACV Nylon Cover. For EEFS305A FUELKARE™ Fuel Service System.

EEFS308AC4 Fuel System Cleaner. Premium fuel system cleaning solution for EEFS305A. Case of four 1-liter bottles.

EEFS308AC12 Fuel System Cleaner. Premium fuel system cleaning solution for EEFS305A. Case of twelve 8 oz. bottles.

EEFS305A



Fuel Injection / Fuel System Cleaners

EEFI305A Fuel Injection Cleaning Kit. Clean deposits and carbon build-up from fuel injection system and combustion chamber. Use on any fuel injection system with a Schrader-port test fitting (found on most GM and Ford plus some Chrysler). For vehicles not so equipped, use with adaptors in the EEFI301A or EEFI301B Fuel Injector Adaptor Set for additional service capabilities plus pressure testing. Connects directly to the fuel rail to clean injectors, fuel lines, fuel rail and the combustion chambers. Restores power smooth idle, efficiency and reduces emissions. Uses aerosol cans of cleaning solvent and does not require an external power source. No pre-mixing of gasoline and cleaning solvent is required. Kit includes 0 to 100 psi gauge, 4-foot service hose with regulator and quick disconnects, GM and Ford adaptors plus (1) 10 oz. aerosol can of cleaning solvent all stored in foam-lined plastic storage case.

EEFS502AC3



General Purpose Fuel System Cleaners (Not for use with equipment shown above)

EEFI305AC12 Fuel Injection System Cleaner. 12-pack of 10 oz. aerosol cans of fuel injection cleaning solvent for the EEFI305A Fuel Injection System Cleaner.

EEFS304AC4 Engine Cleaner. Use as an all-around cleaner, as a top engine cleaner, and in cleaning machines. Removes carbon, dirt, gum and varnish harmful to critical engine components. Detergent-based solution is not harmful to critical engine components. Case of 4 (32 oz.) bottles.

EEFS502AC3 Diesel Engine Cleaner. Use to remove contaminants in engines and fuel systems. Includes 6 units of 3-step cleaner. Each unit includes one bottle of air intake cleaner, one bottle of combustion chamber cleaner and one bottle of fuel conditioner.

EEFS106AC2 Diesel Engine Detergent. Professional detergent for cleaning diesel engines. Four 32-ounce bottles.

Specialty Service Tools

YA9218 CO Valve Adjustment Driver. Get down into Bosch CIS injection air-fuel mixture control units. Features a long blade for access, a screwdriver-type handle, and a 3mm ball hex tip.

YA8980 Honda/Acura Fuel Filter Socket. Designed for 1986 and later fuel-injected Honda and Acura. Removes and installs specially shaped banjo bolt used to attach fuel line to fuel filter. 3/8" drive socket.

YA8340 Fuel Injector Puller. Designed for removal of CIS fuel injectors, especially on Porsche 924, Audi, and VW water-cooled engines. Use with SPB8A or another small prybar.

CCT222K GM Idle Air Control Tester Kit. Includes CCT222L, CCT222M and CCT222N.

CCT222L GM IAC Motor Tester. Tests Idle Air Control Motors on most GM engines from 1982 to present. Allows testing of IAC motors for correct functioning and proper response to commands for correct idle speed plus setting engine idle speed for cylinder balance testing, timing checks and performing the new GM injector cleaning process. Features include late model amp-type connector, clock pulse monitor pilot LED, reverse polarity protection, heavy duty cables and copper-plated battery clips.

YA9218



YA8980



YA8340



CCT222K



CCT222M GM IAC System, New Style Monitor. New style IAC system monitor. Use to observe the signals from the Electric Control Module (ECM) to the Idle Air Control Motor, allowing testing of the IAC system for correct functioning and proper response. The light emitting diodes (LED) monitor all eight drive transistors in the output stage of the vehicle ECM. If any LED's fail to light, it will indicate that the engine computer has one or more defective motor drive transistors.

CCT222N GM IAC System, Old Style Monitor. Same as CCT222M except this is the older style IAC system monitor.

Carburetor Diagnostic

Adjustment Tools

2006IT



2006IT Carburetor Adjusting Set.

6 pcs. Include:

S6137E 3/32" Hex Driver.

S6138E 3/16" x 1/32" Flat Tip Driver.

S6139 3.5mm Double "D" Socket.

TM64 1/4" Drive Adjusting Tool.

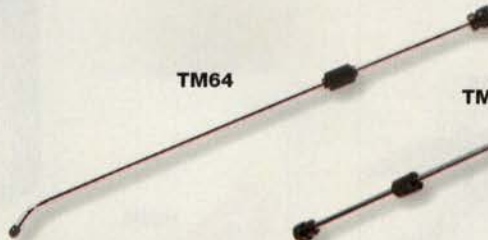
TM83A 23/64" x 1/32" Driver.

TM85 9/32" x 1/32" Driver.



S6136A

S6139



TM64

TM65

TM615

TM83A

TAM3E

S6136A Hex Adjusting Driver. Adjusts rich-lean/air-fuel mixture screw on 1979 and later GM Rochester carburetors. 2.5mm across flats. New-design handle. Industrial finish.

S6137E Hex Driver. For 1978 and later Chrysler. 3/32" hex driver is 1 9/16" long. 7/16" OD. 1/4" drive. Nickel/chrome finish socket, industrial finish bit.

S6138E Flat Tip Driver. For Ford feedback carburetors. Bit has a 3/16" x 1/32" flat tip, 2" long. 7/16" OD. 1/4" drive. Nickel/chrome finish socket, industrial finish bit.

S6139 Double "D" Socket. For 1978 and later GM idle adjusting screw. 3.5mm across flats. 1/4" drive. OD drive end is 7/16". 13/16" long. Nickel/chrome finish.

TM64 Adjusting Tool. Features rigid elbow bend rather than flexible feature. Use with carburetor drivers for making carburetor and point adjustments. Rigid shaft. Overall length is 18 1/4". 1/4" drive.

TM65 Flexible Adjusting Tool. Features a flexible shaft end for working in restricted areas. Overall length is 19 3/4". 1/4" drive. Ideal for working in tight spaces when servicing window-type distributors. Knob markings allow for counting turns.

TM615 Flexible Driver. Designed for carburetor work, this driver can also access buried distributors. 1/4" drive at the end of a tough but flexible spring steel shank. 18 5/8" long. For low-torque applications. Ideal for access to many buried adjusting screws such as those found in vans with under dash carburetors. 1/4" drive. Cable length is 15"; overall length is 18 5/8".

TM83A Flat Tip Driver. 1/4" drive. Use with TM64 or TM65 and other 1/4" square drive handles. Blades are recessed in outer socket wall to self-center. Nickel/chrome finish. 23/64" x 1/32" blade.

TM84 Flat Tip Driver. 1/4" drive. Use with TM64 or TM65 and other 1/4" square drive handles. Blades are recessed in outer socket wall to self-center. Nickel/chrome finish. 7/16" x 1/32" blade.

TM85 Flat Tip Driver. 1/4" drive. Use with TM64 or TM65 and other 1/4" square drive handles. Blades are recessed in outer socket wall to self-center. Nickel/chrome finish. 9/32" x 1/32" blade for adjusting late-model Quadrajet carburetors.

TAM3E Metric Hex Head Driver. Use to make carbon monoxide adjustments on 1976 Dasher, 1974 to 1976 Audi and Volvo, and 1975 and 1976 Fiat and Saab. 3mm bit size, 1/4" drive. 6 7/8" long. Nickel/chrome finish.

ACT1370



GA467



YA862

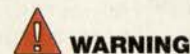


Carburetor Service Tools

ACT1370 Disconnect Set. Set includes six tools for disconnecting spring couplings on fuel lines. Convenient plastic holder included. Also useful on air-conditioning spring couplings as well as push lock connectors on radiator and transmission lines. Includes six tools for disconnecting spring couplings on Ford, GM, and Chrysler air-conditioning lines. Also works on fuel lines and can be used as push lock connectors on radiator and transmission lines.

GA467 Pin Puller. For removing or installing carburetor pins and for work with "C" clips. Puller hook retracts into housing when not in use. 6 13/16" long.

YA862 Choke Tester. Discharges cold air (0°F) from one end and hot air (160°F) from the other end for testing single- and 2-stage chokes. Works on either hot or cold engines. Packaged in a vinyl case.



WARNING

• Read additional safety precautions on pages M1 to M4.



See Warranty Information on inside front cover.

E24

Diagnostic Fuel Systems

Injector Harness Testers

FID8838A Injector Harness Tester Kit. Each tester plugs into solenoid harness to identify electrical or fuel system malfunctions. Includes eight testers and injector harness extension in a blow-molded plastic box.

FID8320 Injector Harness Tester. Use on GM TBI models 100, 200, 220, 300, 400, and 500 used on various cars and trucks.

FID8329 Injector Harness Tester. Use on Bosch PFI injectors used on various GM, Ford and Chrysler vehicles with PFI.

FID8330 Injector Harness Tester. Use on Ford TBI systems.

FID8339 Injector Harness Tester. Use on GM Multec 1 injectors and the "bottom feed" injectors used on 2.2L 4-cyl. "J" and "L" cars from 1989 to 1993.

FID8340 Injector Harness Tester. Use on GM SCPI truck engines 4.3L V6, 5.0L V8, and 5.7L V8 (1996 and later) plus 4.8L V8, 5.3L V8, and 6.0L V8 (1999 and later).

FID8838A



FID9210 Injector Harness Tester. Designed for Geo TBI systems (1992 and later).

FID8838A1 Injector Harness Tester. Use on GM Multec 2 injectors found in 1999 and later 2.4L 4-cylinder engines in Oldsmobile Intrigue and Cutlas, Chevrolet Cavalier and Malibu and Pontiac Sunfire.

FID8838A2 Injector Harness Tester. Use on Bosch 2 injectors used in 2000 and later Cadillac 4.6L V8 engines and Oldsmobile 4.0L V8 engines.

FID8838A3 Injector Harness Extension. Injector harness extension line for all FID Series Injector Harness Testers. Use when the injector is in a lower position in the manifold or cylinder head.

FID8838A4 Plastic Storage Case. For the FID8838A Injector Harness Tester Set.

YA2850A



YA965



Shut-offs and Hose Pinching Pliers

YA2850A Hose Pinchers. Useful for diagnosing problems that require rubber or plastic fuel, vacuum, and air lines to be temporarily closed. Effectively seals lines without disconnecting. Set of two.

YA965 Swivel Jaws Hose-Pinching Pliers. Eliminates need to drain cooling system when repairing thermostat or water pump. Can also be used to pinch off emission control hoses, flexible brake lines, and rubber hose fuel lines. Jaws swivel for positive clamping.

HCP4KT Hose Pinching Pliers Set. Easily seal off vacuum, fuel and brake lines or service heater, cooling system and water pump without draining. Smooth rounded jaws prevent damage to hose. Set of four pliers in carrying case.

HCP6 Hose Pinching Pliers. For 1/4" to 3/4" O.D. hose. Seal off vacuum, fuel and brake lines or service heater, cooling system and water pump without draining. Smooth rounded jaws prevent hose damage. Bright orange for better visibility under the hood. 6" in overall length.

HCP6



HCP4KT



PHP23000



HCP62PK Hose Pinching Pliers Set. Includes package of two HCP6 pliers.

PHP23000 Hose Pinching Pliers. Clamps and holds hoses up to 3/4" I.D. Use on brake, vacuum and heater hoses plus most other flexible rubber hoses.

Angled jaws close to create a complete seal every time. Jaws are offset for hard to reach areas. Handles lock to securely hold jaws in the closed position freeing both hands. Made of glass-filled nylon for maximum strength.

FIH9055



FIH9056



YA9457



Fuel Line Disconnect Tools

Fuel Line Coupling Release Tool Sets. Designed to service special quick-connect couplings found on fuel feed and return lines located at the engine.

FIH9055 Includes a FIH9055-1 5/16" Tool and a FIH9055-2 3/8" Tool for GM fuel lines.

FIH9056 Includes a FIH9056-1 1/2" Tool and a FIH9056-2 5/8" Tool for fuel and air-conditioning quick-connect couplers on most late-model Ford and Mazda Navajo vehicles.

YA9457 Fuel Line Disconnect Tool Set. Designed for reach and access to fuel line couplers. Use on GM Cadillac Northstar engines (1993 and later) and Ford E and F Series Trucks (1991 and later). two-piece set includes YA9457-1 (5/16") and YA9457-2 (3/8") Fuel Line Disconnect Tools.

Fuel Systems

S6176



S6170



S6150



S6154



YA8875



YA9385



Oxygen Sensor

S6176 Oxygen Sensor Socket. For service on most Nissan, Mazda, and Honda/Acura vehicles. Slotted side clears projections. 22mm. 1/2" drive.

S6170 Oxygen Sensor Socket. For 1986 to 1988 Honda Civic HF and 1987 to 1988 Nissan Pulsar. Slotted side clears terminal projections. 17mm, 6-point. 1/2" drive. 82.5mm long. Nickel/chrome finish.

S6150 Oxygen Sensor Wrench. Special crowfoot wrench design provides the strength necessary for removal/installation. 12-point, 7/8" wrench size. 1/2" drive. Nickel/chrome finish.

S6154 Oxygen Sensor Wrench. Similar to S6150 above but has a 22mm, 12-point wrench opening. 1/2" drive. Nickel/chrome finish.

YA8875 Oxygen Sensor Wrench. For oxygen sensors that are located in the exhaust manifolds of 1981 and later cars and light trucks, including VWs. 3/8" drive with 7/8" (22mm) hex size. Industrial finish.

YA9385 Oxygen Sensor Socket. Use to install and remove oxygen and vacuum sensors on most domestic and import vehicles. Can be used with impact wrench. 1 1/4" external hex. 19/32" x 2 3/4" slot to clear obstructions. 22mm. 1/2" drive. Black industrial finish.

YA9375 Oxygen Sensor Wrench. Same design as YA8875 except for GM LT1 and LT5 5.7L V8 engines. 3/8" drive with 2 1/8" hex size. Industrial finish.

Fuel Inlet/Fuel Filter Tool

YA997 Swivel Handle Fuel Filter Wrench. Designed to get into awkward spots. Fits fuel filters 2 1/4" to 2 9/16".



Computer

YA9180



Service Light/Airbag Resetting Tool

YA9180 Service Light Reset Tool. For the following BMW systems with service internal indicator systems: 1983, 5, 6, and 7 Series plus all 1984 to 1998 models. Includes main reset tool, adaptor for later models, and complete instructions. Components are packaged in YA9180-4 Blow-Molded Plastic Case.

YA961



YA960



TLM120



Computer Memory Savers

YA960 Computer Memory Saver. Prevents memory loss on digital radios, clocks, door locks, and computers when disconnecting vehicle battery. Plugs into cigarette lighter socket. Uses a 9V battery to keep "memories" alive for up to four continuous hours. Use YA961 when using on Chrysler products.

YA961 Computer Memory Saver. Similar in function to YA960 except its power source is any 120VAC outlet. Will work on all vehicles.

TLM120 Computer Memory Saver. Saves computer memory on clocks, radio settings, and fuel injection systems. Simply plug into cigarette lighter, then attach battery clamps to spare battery.

Electrical

YA9811



FZ7A



FZ4B

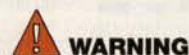


Fuse Tools

YA9811 Relay/Fuse Slip Joint Pliers. Remove/install relays and fusible links. Designed to reach into confined access areas. Features convenient slip joint design to enable use for a variety of sizes. Coated pliers tip securely grips corner of relay or fusible link. Black industrial finish with red cushioned grip handles. 8" in length.

FZ7A Nylon Fuse Tongs. Nylon tongs remove auto high-tension wires and pull cartridge fuses from 15/16" to 1" in diameter. Has hooks on handles and jaws. Tongs have high-insulating qualities and are resistant to oil, water, and heat up to 300°F. Hand stops prevent slipping.

FZ4B Delrin Fuse Tongs. Delrin tongs pull fuses up to 15/16" in diameter. A 1/8" hook on the handle pulls short fuses. Tongs have high-insulating qualities and are resistant to oil, water, and heat up to 300°F. Hand stops prevent slipping.



WARNING

• Read additional safety precautions on pages M1 to M4.



Diagnostic Electrical

Terminal Tools

TT600 Terminal Tool Kit. Includes six tools for removing terminals from harness blocks: pin vise, square probe, wedge probe, tube probe, flat probe, and hook probe. Tools come in a vinyl pouch.

GA500A Wire Terminal Tool. Removes flat and round wires from terminal blocks without damage. Six stations fit most sizes.

Soft Grip Terminal Tools

Easily remove terminals from electrical connectors found on mid-1990's and later domestic and import vehicles. Terminal tools incorporate a stainless steel design with ergonomic "Soft Grip" handles.

SGTT1 Soft Grip Terminal Tool. Use on PCM and transmission harnesses found on Chrysler, Hyundai, Kia and Mitsubishi.

SGTT2 Soft Grip Terminal Tool. Provides robust narrow width blade with fulcrum for easier access to release tabs found on newer terminal blocks. General purpose release tool for domestic and import vehicles. 5 1/8" long.

SGTT3 Soft Grip Terminal Tool. Use on underhood sensors such as coolant temperature and throttle position sensors. For use on Ford, GM (including Cadillac), Chrysler, Mitsubishi and Hyundai. 5 1/4" long.

GOFER1A

GOFER4A

Wire Installation Tools

GOFER1A Wire Installation Tool. Designed for quick installation of wires for stereo systems, alarm systems, cellular phones, vacuum hoses, and air shock supply lines. Conical-shaped collet provides secure wire retention when threading wires. Will push or pull wires through openings.

GOFER4A Holding Straps. 1/2" wide by 8" long velcro fastening holding straps. Use to organize and hang tools in the shop, or to separate or retain hoses or wires during engine service. Also helpful for sorting wiring during test, for holding scope or meter leads together, or a multitude of other applications. Twelve straps are included in eight different colors.

WIRE7

WIRE3

PVC Wire Terminals

Sizes and styles are ratio-blended for typical applications. Pure electrolytic copper with electro-tin plating for corrosion resistance. Deep internal serrations promote firm wire grip for maximum strength. Insulation (where applicable) is color coded to NEMA Standards and flared for easy insertion of stranded and solid wire. UL Listed, CSA Certified.

Stock No.	Description	AWG Wire Size	Quantity (In Original Set)	Quantity (Refill)
WIRE71	Butt Splice Connector, Red	22-18	25	25
WIRE72	Butt Splice Connector, Blue	16-14	25	25
WIRE73	Butt Splice Connector, Yellow	12-10	15	15
WIRE74	Spade Terminal, #10 Stud, Blue	16-14	25	25
WIRE75	Spade Terminal, #10 Stud, Blue	12-10	15	15
WIRE76	Insulated Female Dis., 1/4" Stud, Blue	16-14	10	10
WIRE77	Insulated Male Dis., 1/4" Stud, Blue	16-14	10	10
WIRE78	Female Disconnect, 1/4" Stud, Blue	16-14	25	25
WIRE79	Male Disconnect, 1/4" Stud, Blue	16-14	25	25
WIRE710	Ring Terminal, #10 Stud, Red	22-18	25	25
WIRE711	Ring Terminal, #10 Stud, Blue	16-14	25	25
WIRE712	Ring Terminal, 1/4" Stud, Blue	16-14	15	15
WIRE713	Ring Terminal, 3/8" Stud, Blue	16-14	15	15
WIRE714	Ring Terminal, #10 Stud, Yellow	12-10	15	15
WIRE715	Ring Terminal, 1/4" Stud, Yellow	12-10	15	15
WIRE716	Ring Terminal, 3/8" Stud, Yellow	12-10	15	15
WIRE717	Tap Splice Terminal, PVC Ins., Blue	16-14	12	12
WIRE718	Tap Splice Terminal, Nylon Ins., Clear	16-10	15	15

WIRE7 PVC Wire Terminal Kit. WIRE71 thru WIRE718 (322 pcs) in plastic storage case.



YA500GM



TT600



YA500GM Wire Terminal Tool. Services wire connectors on computer-controlled GM vehicles and most AMC products.

YA13120 Electrical Connector Separator. Disconnect electrical connectors without damage. Double-ended to fit different access angles. Easy-to-use. Simply engage the tool tip behind the connector clip and push or pull to disconnect. Works on Weather Pack and other automotive electrical connectors.

SGTT4 Soft Grip Terminal Tool. Use for cutting open wire harnesses for easy access to troubleshooting and replacement applications. Tool follows easily slits harness sheathing without piercing the wires inside. 4 3/8" long.

SGTT5 Soft Grip Terminal Tool. Use on 55-pin ABS ECU's found on Ford, Gm, Jaguar, Jeep, Volvo, VW, BMW, Hyundai, Kia and Mercedes. 5 1/4" long.

SGTT6 Soft Grip Terminal Tool. Use on 35-pin ABS ECU's found on Audi, BMW, Chrysler, Ford, GM, Infiniti, Isuzu, Jaguar, Mazda, Mercedes, Mitsubishi, Nissan, Porsche, Subaru, Saab, Volvo and VW. 5 1/4" long.

SGTT106 Soft Grip Terminal Tool Set. Includes SGTT1 thru SGTT6 (6 pcs.) in kit bag.

WIRE10



Dual Wall Heat Shrink Tubing

Sizes and styles are ratio-blended for typical applications. Shrink tubing material features a higher flashpoint to help prevent burning or discoloration during the shrinking process. Adhesive in the shrink tube melts during the shrink process to form a secure and water tight bond. UL Listed, CSA Certified.

Stock No.	Size	Description	Shrink Ratio	Quantity (In Original Set)	Quantity (Refill)
WIRE11	#1	1/4" x 6"	4:1	28	14
WIRE12	#2	3/8" x 6"	4:1	24	12
WIRE13	#3	1/2" x 6"	4:1	8	8
WIRE14	#4	3/4" x 6"	4:1	3	3

WIRE10 Dual Wall Heat Shrink Tubing Kit. WIRE11 thru WIRE14 in plastic case.

Wire Installation Tubing

Split, convoluted polyethylene tubing protects wire and eases installation procedures. Adds a professional appearance to all installations. Available in 1/4", 3/8", 1/2", 5/8" and 3/4" inside diameters in 50' (1500cm) lengths. Black.

Stock No.	Inside Diameter, inches (mm)	Overall Length, ft. (cm)
WIRE5038	3/8 (9.52)	50 (1500)
WIRE5058	1/2 (12.7)	50 (1500)

Adhesive Lined Heat Shrink Tubing/Terminals

Sizes and styles are ratio-blended for typical applications. Shrink tubing features a higher flash point to help prevent burning or discoloration during the shrinking process. Adhesive in terminals and dual wall shrink tubes melts during the shrinking process to form a secure and water tight bond. UL Listed, CSA Certified.

Stock No.	Description	Shrink Ratio	AWG Wire Size	Quantity (In Original Set)	Quantity (Refill)
WIRE31	1/8" x 2" (Black)	2:1	—	30	30
WIRE32	1/8" x 2" (Red)	2:1	—	30	30
WIRE33	3/16" x 2" (Black)	2:1	—	25	25
WIRE34	3/16" x 2" (Red)	2:1	—	25	25
WIRE35	1/4" x 4" (Black)	2:1	—	12	12
WIRE36	3/8" x 4" (Black)	2:1	—	10	10
WIRE37	1/2" x 4" (Black)	2:1	—	8	8
WIRE38	3/4" x 4" (Black)	2:1	—	7	7
WIRE39	1/4" x 6" (#1)	4:1	—	14	14
WIRE310	3/8" x 6" (#2)	4:1	—	12	12
WIRE311	Butt Splice Connector, Blue	—	14-16	18	18
WIRE312	Butt Splice Connector, Yellow	—	10-12	12	12
WIRE313	Ring Terminal, #10 Stud, Blue	—	14-16	18	18
WIRE314	Male Quick Disconnect, Blue	—	14-16	18	18
WIRE315	Female Quick Disconnect, Blue	—	14-16	18	18
WIRE316	Ring Terminal, 1/4", Yellow	—	10-12	12	12

WIRE3 Heat Shrink Tubing/Terminal Kit. WIRE31 thru WIRE316 (288 pcs.) in plastic storage case.

Ignition



2014ITKA

YA6465



YA6466



YA2700



KD2756



KD2757



Ignition Tools

2014ITKA Ignition Tune-Up Set (14pcs). Designed for servicing late model electronic and HEI systems as well as contact point ignition systems. Set includes midjet pliers, wire gap gauge, two feeler gauge sets, six ignition open end wrenches, ignition point file, distributor adjusting tool, screw starter, and screwdriver. All components are neatly displayed in C1400 Kit Bag.

YA6465 Ford Ignition Modular Wrench. Use to remove 7/32" (5.5mm) hex retainer bolts on Ford ignition modules. 1/2" hex drive.

YA6466 Ford Ignition Switch Wrench. Often times eliminates the need to drop the steering column when removing the ignition switch. 1988-90 Crown Victoria, Grand Marquis and Lincoln Town Car; 1988-90 Escort/EXP, 1988-91 Aerostar and 1988-92 Mustang, Tempo, Topaz, Thunderbird, and Cougar. Magnetic bit holder in tool. 4 1/8" overall length.

YA6366-1 Tamperproof TORX® Bit. Size T27.

Ignition Testers

YA2700 Ignition Modular Tester. For testing Chrysler 4-pin and 5-pin modules; GM 4-pin, 5-pin, and 7-pin modules; plus Ford 3-pin and "grommet" style modules. LED indicator gives a simple "good" or "bad" reading.

KD2756 Ignition Tester. For HEI systems. Check for spark without removing spark plug from engine. Testers attach to spark plug lead and spring clip attaches to appropriate ground.

KD2757 Ignition Tester. For standard ignition systems. Check for spark without removing spark plug from engine. Testers attach to spark plug lead and spring clip attaches to appropriate ground.

Charging / Starting

MT1009



Inductive Ammeters

MT1009 Inductive Ammeter Set (2 pcs). Meters require no direct hookup: lay meter guide on cable for item being tested and take a reading. Zero center scale provides a reading regardless of polarity.

MT109 Starter Current Inductive Ammeter. Tests starters on 12V systems, even on warm engines with high compression. Meter reads 600-0-600 DC amps in 50 amp increments.

MT110 Alternator Current Inductive Ammeter. Test output of alternators or generators while under load. Meter reads 100-0-100 DC amps in 5 amp increments. Can be affected by magnetism. Tests should not be performed close to alternator or generator.



MT130

GM Charging System Analyzer

MT130 GM Charging System Analyzer. Four LED's check voltage regulators, alternators "normal" circuits, and diode trio on alternators. Two 24" color-coded leads are included.

MT326C



Armature Growlers

MT326C Armature Growler. Quickly and accurately locates defects in any armature between 1" and 8" in diameter. Neon test light with leads checks insulation and continuity. UL Listed.

MT326C220 Armature Growler. 220V, 50-Hz version of MT326C. Available on special order only.

MT302A



Remote Starter Solenoid Switch

MT302A Remote Starter Solenoid Switch. 5' leads allow cranking engine from sides or beneath auto while keeping hands away from moving belts, parts, etc. Housing protects switch from dirt and moisture. Heavy-duty switch reduces arcing and includes safety shield.



WARNING

• Read additional safety precautions on pages M1 to M4.



Battery Charging and Testing Battery System Testers

MicroVAT™ Battery/Starting/Charging System Tester

- Complete automotive battery, alternator and starter system testing in under a minute.
- Tests 6 and 12-volt batteries.
- Tests 12 and 24-volt systems.
- Test discharged batteries down to 1 volt.
- Impedance battery test diagnoses battery in 5 seconds or less.
- Automatically compensates for state-of-charge and temperature.
- Automated and manual (user specified) tests for starting and charging systems.
- Heavy duty truck applications - batteries up to 1500 CCA, charging systems up to 400 amps.
- Fan cooled 50-amp load for accurate alternator test under load.
- Three simple controls: YES/NO buttons and thumb wheel.
- Large 4 x 20 character LCD display screen.
- 5-foot lead set with insulated Kelvin battery clamps.
- Printer capability with optional wireless printer.

EECS304B1B



EECS304B1B MicroVAT™ Tester

Programmed for English, French Canadian and Latin American Spanish languages. The MicroVAT™ Tester uses new impedance/current technology to accurately detect the source of electrical system failure in automotive batteries, alternators and starters. Offers hand-held convenience yet rivals the accuracy of heavy load testers. 50-amp fixed load during alternator test results in accurate, reliable testing. Battery test and cranking voltage test results displayed in 5 seconds. Complete system test typically performed in less than 1 minute. Comprehensive data display for battery volts, available amps, impedance rating, starter draw, starting voltage, charging amps plus battery, diode and alternator diagnosis. Optional low and high amps probes provide additional diagnostic capabilities like starter draw readings and determining parasitic current drains and more. Includes plastic storage case. CE conformity.

EECS304B2B Same features and applications as EECS304B1B except programmed for English, German and Dutch languages.

EECS304B3B Same features and applications as EECS304B1B except programmed for English, European French and Spanish languages.

EECS304B4B Same features and applications as EECS304B1B except programmed for English, Latin America Spanish language. Latin America Portuguese.

MicroVAT™ Specifications

Voltmeter Range	0 to 50 volts
Voltmeter Resolution	0.01 volts
Voltmeter Accuracy	1% of reading \pm L.S.D.
Test Range	100 to 1500 CCA batteries
Rating System	CA / CCA / DIN
Power Source	4 "AA" batteries
Battery Life	50 hours
Dimensions	8 1/2" x 7" x 2 1/2"
Weight	2 lbs.

MicroVAT™ Accessories

2-6342-1 Clamp-on Inductive High Amp Probe. For EECS306A D-Tac™ Battery Systems Testers and EECS304B Series MicroVAT™ AVR Testers. 0 to 1500 amp range for testing high current circuits. Easy clamp-on connection. 5-foot length. 1 amp resolution.

2-6442-1 Clamp-on Inductive Low Amp Probe. For EECS306A D-Tac™ Battery Systems Testers and EECS304B Series MicroVAT™ AVR Testers. 0 to 15 amp range for testing low current circuits. Easy clamp-on connection. 5-foot length. 10 milliamp resolution.

2-22566 Wireless printer. Features infrared communication and 2" paper roll.

EESP303B SNAP-LINK® Software. Windows® based software application displays, analyzes and prints live vehicle data plus previously saved data recorded with MT2500 Series Scanners, VANTAGE® Power Graphing Meters and MicroVAT® Battery, Starting and Charging Tools. Includes 25-pin to 9-pin adaptor for connection to computers with 9-pin serial port. Software will replay Scanner Data Movies, print-out Parameters and Waveforms, view and save Fast Track Troubleshooter Data and Diagnostic Trouble Codes. Includes direct Link to Tech Hot Line. CE conformity

Battery System Testers Battery Charging and Testing

D-TAC™ Battery System Diagnostic Tester and Charger

EECS306APR The only tester designed to diagnose the complete system, top-off the battery, and jump start the vehicle. Tests 12 volt charging systems up to 400 amp / 1500 CCA capacities. Diagnoses most batteries in one minute. No more than 45 minutes to test and charge a deep-discharged battery. Automatically removes surface-charge as needed. Complete diagnosis of system test in 3 minutes. D-TAC™ Tester "reads" each battery's requirements and automatically charges battery as needed. Charges as fast as possible without damage or "boiling". Includes powerful 300 amp crank-assist and quick battery jump-charge (80 amp) for fast charging.

FEATURES:

- Battery test, system test, battery charging and jump start all in one unit.
- Automatic test sequence and user-specified "troubleshooter" test menu.
- Built-in multimeter, battery-capacity meter and optional clamp-on amp probes.
- 300 amp automatic crank-assist – the most powerful available in a tester/charger.
- Automatic charger with nearly infinite charge rates between 2 and 80 amps.
- Battery is continuously monitored for optimum fast charge with no "boiling".
- Complete systems test in 3 minutes.
- All menu-driven – large 1.5 x 5" (backlit graphic LCD).
- Integrated printer.
- Complete battery test and charge in as little as 1 minute.
- Memory storage for test results.

EECS306A Specifications

Power Requirements	120 VAC, 60 Hz.
Weight	50 lbs. (22.7 kg) without cart, 80 lbs. (36.3 kg) with cart.
Overall Dimensions	(without cart) 14" H x 19" D x 12"W (355.6 x 482.6 x 304.8mm) (with cart) 50" H x 19" D x 12"W (1270 x 482.6 x 304.8mm)



EECS306AKRPR

EECS306APR EECS306A D-TAC™ Battery System Diagnostic Tester and Charger with internal printer. Printer prints system test results on 2" wide paper.

EECS306AKR EECS306A D-TAC™ Battery System Diagnostic Tester and Charger (standard model) with EAA0300L10A Roll Cart.

EECS306AKRPR EECS306A D-TAC™ Battery System Diagnostic Tester and Charger (standard model) with internal printer and roll cart. Printer prints system test results on 2" wide paper.

Standard AVR Tester and Battery Charger

- 750-amp Current Range—it's essential for testing today's automotive and light truck starting systems.
- Indicator—helps to alert operator to alternator defects.
- Auto-Return Load Control Knob—protects tester from damage that can result from prolonged engagement of carbon pile.
- LCD Displays—are large and easy to read; they eliminate having to guess at readings or switch ranges.
- Patented—under U.S. Patent No. 4,459,548.
- Compact Current Probe—allows easier access to restricted areas without sacrificing current range capacity.
- Zero Amps Key—for fast and easy "0" adjustments.
- Twin-Extruded Load Leads—are less cumbersome for user convenience.
- Load Control Indicator Lights—automatically signal when carbon pile is engaged and when load has been applied for 15 seconds, eliminating the need to observe clock or wristwatch when performing battery load tests.

MT3750



MT3750 AVR Tester. Problems that used to take up to an hour to diagnose can be uncovered in only five minutes, or less. The three primary functions necessary for testing batteries, starters, alternators, voltage regulators, and their related circuitry are provided. These functions, ammeter, voltmeter, and load control, are coupled with the tester's unique indicator, which analyzes the quality of an alternator's DC output. Advanced circuitry provides a high degree of accuracy, reliability, protection in case of overvoltage or crossed lead wires and minimizes effects of radio frequency interference.

MT3750 Specifications

Ammeter (Digital Display)	0 to ±750ADC
Amp Increments	1 amp
Voltmeter	0 to ±40VDC
Volt Increments	.1V
Overall Operating Range	18VDC
Carbon Pile Load	500 amp (max) @ 12V
Load Dump Protection	100VDC
Carbon Pile Timer	15 sec
Carbon Pile Duty Cycle	200-amp load for 15 sec on, 45 sec off at 75°

KR498 Roll Stand. Provides 2-wheel mobility plus convenient storage space for leads and accessories.

MTC37503760 Short Cover. Covers meter only, not the stand.



WARNING

- Charger must be OFF when connecting or disconnecting leads.
- Keep flames and sparks away from batteries while charging.
- Read additional safety precautions on pages M1 to M4.



See Warranty Information on inside front cover.

Battery Charging and Testing Battery Chargers

EEBC300A Fleet Charger. Our mega-duty fleet charger lets you charge 6V, 12V, 18V, or 24V batteries in practically no time. That means multiple battery applications are possible on a full range of standard and specialty applications, from tractor, trailer, or agricultural equipment. It's like having 2 chargers in one—there's no need to disconnect 24V systems—you can charge two batteries at a time. The EEBC300A provides maximum charge and crank assist and features ammeter and voltmeter function to provide accurate results to the technician. The unit has a full 120-minute timer with hold feature, is designed with easy-to-read meters, and has a sloped easy-view panel. Nonslip textured handle and rugged wheels also add to the professional features of this unit.

EEBC300A Features:

- Battery charging is made easy with 6V, 12V, 18V, and 24V capability.
- Charging capability includes tractor, trailer, agricultural equipment.
- Includes a heavy-duty transformer.
- Ammeter and voltmeter provide for accurate charging verification.
- Rectifiers are covered by US Patent 4,994,890.
- Extra-long leads have quality, heavy-duty, 500-amp clamps.
- Fan cooled for extended life.
- UL Listed. CSA Certified.

EEBC300A Specifications

Description	Fleet charger
Voltage	120V, 60 Hz
Batteries	6V/12V/18V/24V SLI
Continuous Rating	80/70/45/35ADC
AC Cord	9' 10" (14-3 AWG)
DC Leads	8' 2" (4 AWG)
Clamp Rating	500 amp
Ammeter	0 to 100ADC
Voltmeter	0 to 30VDC
AC/DC Breakers	Self-resetting
Timer	120 minutes with hold
Function Switch	Two 4-position rotary (8 rates)
Wheel Size	8" x 1.75, Solid rubber
Shipping Weight	56 lb
UL Listed	Indoor/outdoor
Crank Assist Output	225ADC @ 12V HI
DC Clamps Rating	500 amp
Dimensions	13 1/2" x 16" x 39"



EEBC302A Specifications

AC Cord	9' 6" (16-3AWG)
DC Leads	7' (6AWG)
Timer	120 minutes with hold function
Input	120VAC, 13 Amps AC, 60 Hz single phase
Output	70/35 Amps DC
Cranking Assist Output	250 Amps
Duty Cycle On Time	3.5 seconds
Ammeter Range	0-100A
Wheel Size	7"
DC Clamps Rating	400 mps
Dimensions	11 1/2" x 38" x 11"



EEBC302A Battery Charger. The Pro Charger 250 is a general purpose, 12-volt charger featuring timed or continuous charging capability. Select between HI (70 amps DC) and LOW (35 amps DC) amperages to efficiently charge several sizes of 12-volt batteries. Charger also features a 250 amp cranking assist for boost starting. Includes 120-minute charge timer with automatic switch off, forward mounted wheels for easy mobility, and protective anti-shorting bar for lead clamps. Charger is fan cooled. UL listed.

BC4200B and BC5500B Features:

- Both portions of transformer are protected by self-resetting circuit breakers to prevent overheating in case of overload.
- Quick, troublefree performance with an angled control panel for the best possible viewing, easily operated controls (even with gloves on), specially insulated twin-extruded power leads, semi-pneumatic rubber tires, and a forward-slanted handle for easy transport.

BC4200B Fast Charger. The fast charger is a powerful, high-rate battery charger capable of continuous charge, timed charge, and cranking assist. Charge all 6V and 12V batteries (standard, maintenance-free, and hybrid types). There are two controls on the BC4200B: "Length of Charge" with a 120 minute timer and a "Hold" setting. "Charge Rate" has settings of LO, Med, and HI for 12V batteries and one setting for 6V batteries. Unit appearance may not be exactly as illustrated.

BCC-1 Nylon Cover. Tough nylon cover to protect the BC4200A and BC5500A.

- Rectifiers are covered by US Patent 4,994,890.
- 5-year warranty on transformers and rectifiers, 1-year warranty on all remaining parts.
- UL Listed for indoor and outdoor use.

BC5500B Super Charger. This powerful, high-rate battery charger is capable of continuous charge, timed charge, and cranking assist. Charge all 6V and 12V batteries—standard, maintenance-free, and hybrid types. This top-of-the-line unit features three low-profile controls: "coarse rate" has two settings each for 6V and 12V batteries; "fine rate" has four settings to handle different battery types; and the "Length of Charge" control has a 120 minute timer plus a "Hold" setting. Unit appearance may not be exactly as illustrated.

BC4200B Specifications

Description	High-rate battery charger
Voltage	120V, 60 Hz
Continuous Rating	70 amp, 7.2VDC 60 amp, 14.4VDC (12V Battery @ 12 HI position)
AC Cord	8' 2" (16-3 AWG)
DC Leads	6' 5"
Clamp Rating	400 amp
Wheel Size	6" x 1 1/2", solid rubber
Shipping Weight, lbs.	42
UL Listed	Indoor/Outdoor
Dimensions	37 1/2" x 16" x 12 1/2"
Crank Assist Output	295 amp, 3.6VDC (6V starter) 200 amp, 7.2VDC (12V starter)
Rates of Charge	4



BC5500B Specifications

Description	High-rate battery charger
Voltage	120V, 60 Hz
Continuous Rating	100 amp, 7.9VDC 70 amp, 14.5VDC (12V battery @ 12 HI coarse, HI maint. free position).
AC Cord	9' 8" (14-3 AWG)
DC Leads	7' 2"
Clamp Rating	500 amp
Wheel Size	7" x 1 1/2"
Shipping Weight, lbs.	46 lb
UL Listed	Indoor/outdoor
Dimensions	38" x 16" x 13"
Crank Assist Output	400 amp, 3.6VDC (6V starter) 300 amp, 7.2VDC (12V starter)
Rates Of Charge	16



Battery Charging and Testing

Small Chargers

YA1222 Automatic Battery Charger.

12-volt, 0-20 amp automatic battery charger with deep discharge recovery for reconditioning and maintaining 12-volt flooded and sealed batteries. Advanced micro-processor control. Select FLOODED BATTERY or SEALED BATTERY with the flip of a switch. Deep discharge recovery technology. Cooling fan is activated when charging current exceeds 8 amps. Indicator lights to monitor progress of charging, proper polarity and first stage of deep discharge recovery process. UL/CUL Listed to Standard 333M.



YA1222

YA1222 Specifications

Input	120VAC, 60 Hz, 4.5 Amps
Output	20 Amps @ 13.02V
Charging Cable Length	6 ft. (1.8M)
Power Cord Length	6 ft. (1.8M)
Height	8.0" (203mm), to top of handle
Width	10 5/8" (270mm)
Depth	8.0" (203mm)

YAH166B220 Heavy Duty Charger. Heavy duty battery charger is capable of charging 6, 12 and 24-volt batteries with six different charge rates. 100% vinyl insulated heavy duty clamps feature copper jaws and cable guards to relieve cable stress and extend cable life. Vacuum impregnated transformer protects the charger against harmonic distortions. Multi-silicone diode rectifier takes over in case of failure to prevent downtime and extensive repairs. STOP/GO light provides polarity protection to protect both the charger and operator from incorrect polarity. Charger is safe for external use in any weather. Other features include strong steel cabinetry with galvanized metal base, chrome plated handle, fan ventilation and side terminal adaptors. 220VAC. EU/CE - DE, ES, FR, NL, UK.



YAH166B220

YA510B



YA510B 4-in-1 Battery Charger. This compact 4-in-1 battery charger charges 6V/12V batteries. Handles both standard and maintenance-free automotive battery designs plus those used in such vehicles as snowmobiles, motorcycles, and garden equipment. Solid-state construction with lighted meter showing amperage output and charged or charging condition makes for high reliability. The YA510B provides 10-amp high-rate charge for automotive batteries, 2-amp low rate charge for motorcycle and lawnmower batteries, and a 55-amp engine start. Additional features include automatic shut-off, reverse connection warning light, charge complete light, 6' battery cables and 6' power cord. 120VAC. Measures 8 3/4" x 9 7/8" x 5 1/2". Shipping weight is 11 lbs.

Battery Testers / Booster Packs / Starting Units

EECS303B



Battery Testers

EECS303B QBT Battery Tester.

The QBT200® quickly and accurately diagnoses batteries in virtually any condition through a unique battery test method called Impulse Loading. This new method applies a series of short impulse loads of up to 120 amps to a fully charged battery. The QBT200® monitors the battery voltage prior to loading to determine the appropriate load for the tested battery. During the test cycle, the QBT200® monitors the rise and fall in battery voltage and then analyzes the voltage signature to determine the battery's condition. Different battery failure modes have unique signatures that are identified by the QBT200®. This unique testing method eliminates the need to enter the battery size (CCA) to perform the test. It will determine the battery condition in less than five seconds. Battery test indications include GOOD, GOOD/NEEDS CHARGE, RECHARGE/RETEST and BAD. Flashing LED alerts user when battery test leads fail to make good contact. Use on all 12-volt batteries, even discharged batteries down to one volt. Includes plastic carrying case. EU/CE - ES, DE, FR, NL, UK. Multi-language instruction manual available in English, French, Spanish, German, Portuguese, Dutch, Japanese and Chinese.

EECS303B Specifications

Battery Size Range	200-1000 CCA (automatic adjustment for CCA rating)
Operating Temperature Range	0-120° F to 90° (non condensing humidity)
Electrical Requirements	(4) 1.5V AA Batteries (included)
Test Lead Length, inches	30
Weight, lbs.	1.1 (UNIT), 2.58 (UNIT and CASE)
Dimensions	8.5" L x 2.5" W x 2" D

YA2612



YA2612 Features:

- No conversion tables needed for CCA, SAE, IEC and EN amp hours.
- Bad cell is detected and displayed.
- Multi-colored bar graph displays battery condition.
- Low voltage LED lights when charging is necessary.
- Battery charge is shown in % of capacity.
- Comfortable grip with easy to use clamps.

YA2612 Electronic Battery Tester. The YA2612 features a testing method that does not require the battery size to be entered into the unit. Simply choose between automotive/truck battery or small, non-automotive type batteries for testing. Eliminates tester input errors and allows the testing of batteries of unknown size. Unit can test batteries as low as 5% state of charge and still give accurate readings. LED Bar Graph immediately displays battery condition upon pressing the TEST button. EU/CE - DE, ES, FR, IT, NL, UK.

YA2612 Specifications

Battery Size Range	150CCA to 1400CCA
Operating Temperature Range	32°F to 120°F
Weight, lbs.	.75
Dimensions	6"L x 3"W x 1"H
Bar Graph	10 color-coded LEDs
DC Voltage: Range/Accuracy	6V to 19.9V / ±2% of reading
Capacity/Volts Display	LED 2.5 digits



WARNING

- Charger must be OFF when connecting or disconnecting leads.
- Keep flames and sparks away from batteries while charging.
- Read additional safety precautions on pages M1 to M4.

Battery Charging and Testing

Battery Testers / Portable Booster Packs / Starting Unit

Battery Testers

YA283 Digital Battery/Alternator Tester. Use on 12-volt systems. Test are performed automatically. Results are displayed digitally. Battery test indicates current condition of battery (PASS, FAIL, or INSUFFICIENT POWER FOR TESTING) plus end test voltage. Charge system test measures alternator/regulator output (LO, GOOD or HIGH). Starter test occurs with increase of greater than 0.5V within 10 seconds of starting and indicates test results (STARTER GOOD or STARTER BAD). **YA271 Battery/Alternator Tester.** 6V/12V Hand-held tester for conventional and maintenance-free batteries. Performs state of charge test, 125-amp battery load, and starter current draw test. A built-in alternator tester tests for faulty regulators and defective output diodes, also test GM diode trios. Heavy-duty insulated clamps with 300-amp jaws. Also includes built-in adaptors for side post.

YA201A Battery Tester. 6V/12V Similar to YA271 but without alternator tester.

YA1212A



YA1213A



Portable Booster Packs

YA1213A Booster Pack. Use as portable booster for cars, trucks, boats, motorcycles and more. High performance battery holds charge longer. Arc-resistant insulated clamps with 4-gauge welding cable are 36" long. Features include LED battery charge indicators, charging/charged indicator and ability to power 120VAC with optional YA12120 Inverter. Peak Amps to 1500, Cranking Amps to 360 (282 cold). Includes AC 1-amp Charger, 120VAC Charger and 12VDC Plug-to-Plug Adaptor.

YA1212A 12VDC Portable Booster Pack. Features residual power indicator lights and heavy duty battery clamps with flexible 24" cables. 1,700 amps boost charge. Booster pack holds charge for up to 3 months. Push-button displays indicates state of charge. 6' recharge extension with cigarette lighter plugs at both ends. Includes 120VAC Charger and 12VDC Plug-To-Plug Adaptor.

TL1212 Cigarette Plug Adaptor. An optional heavy duty adaptor for the YA1212 Snap-on® Portable Booster Pack. Male/male ended adaptor for onboard charging. 12' coiled cord.

YA12120 Power Inverter. Portable AC Power (300 Watts). Provides (2) 120VAC Outlets. Universal Male Plug. Low Voltage Shut-off Alarm. Automatic Overload Shut-off. Rugged Metal Case.

YA12120 Specifications

Surge Capability (Peak Power), watts	500
Max. Power Output, Watt	300
Recommended Continuous Power, watts	250
Optimum Efficiency	90%
No Load Current Draw, amps	0.01
Input Voltage, VDC	10 to 15
Low Voltage Alarm	Yes (10.6 volts)
Low Voltage Shut-off	Yes (10.0 volts)
AC Receptical	Dual, Grounded
Fuse	30 amp, Spade type
Weight, lbs.	1.32
Dimensions	6" x 4 3/4" x 1 3/4"

YA12120



YA283



YA271



YA201A



EECS309A



EECS309A Booster Pack.

Compact, lightweight 12VDC booster pack built to safely and reliably handle 12-volt automotive crank-assist applications. 1700 peak amp battery power for quick, starting power – works on even deeply discharged batteries. Also suitable for use as a temporary power supply for automobiles and 12V electrical devices. Powered by a sealed, non-spillable, "pure lead" AGM battery rechargeable via 110VAC charger (included), 12VDC adapter (included), or from vehicle alternator. 30" 4-gauge clamp leads are detachable via heavy-duty brass sockets for easy field replacement of cables. Optional 60" extended lead set (EEA0284L38A) is also available.

- Three-LED charge level indicator provides charging status at a glance.
- Two insulated posts provide secure separation and storage for the clamps, when not in use.
- 12V cigarette lighter socket allows recharging, and also provides a 12V source to power external devices, such as radios, lights, etc. 5' power cord included.
- Fast recharge via 110V 4 amp wall charger; includes charging status indicator lights.
- Rugged, red molded-plastic ABS plastic housing, with easy single-handle carrying and charging instructions screened on the back.
- Size approximately 4"D, 11"W, 11"H. Weight approximately 20 lbs.
- Full one-year warranty.

EG1800



Starting Unit

EG1800 Starting Unit.

The EG1800 features amperage neutralizer, ammeter, and 30' cables with color-coded battery clips. The auto sensor automatically senses polarity, voltage, and shorts; the generator then adjusts output. The EG1800 is an 18-hp, 4-cycle aluminum engine with cast iron sleeves. The unit has four generators, two for each boosting system. Develops 700 amp of cranking power for starting both 12 and 24V systems. 2-ga. cable. Mounting area: 33" L x 27" W.

Booster Cables and Clamps

BC20500



BC25500P



YA159



YA169



Cables / Clamps

Professional-Quality Booster Cables.

Heavy-gauge cables with 100% copper stranding.

Clamp bodies are fully insulated, and their copper jaws are recessed to minimize the chance of sparking if the cables should accidentally touch each other. Heavy-duty clamp springs bite securely on top or side battery posts.

BC20500 Booster Cable Set. 20' long, 4-ga, 413 strands copper wire.

BC15500 Booster Cable Set. 15' long, 4-gauge, 329 strands copper wire.

BC12500 Booster Cable Set. 12' long, 4-gauge, 329 strands copper wire.

BC25500P Plug-In Style Booster Cables. Consists of a starting cable and a connection harness. Heavy-gauge 25' cables plug in to bumper-mounted socket to reach any stalled vehicle without having to lift the truck's hood. Polarized socket mounts to service truck bumper and connects to truck battery. 500-amp clamps are fully insulated with vinyl. 4-ga, 413 strands of copper wire.

YA159 Cable Clamp Set. One pair of heavy-duty, copper jaw clamps. 500-amp clamps, 100% copper live jaw.

YA169 Side Terminal Adaptor Set. One pair of adaptors fits all cables.

Battery Service Tools Battery Charging and Testing



Terminal Tools

BTC3A Terminal Brush. Stiff wire bristles thoroughly clean posts and clamps. 3 3/8" long.

BTC7B Terminal Cleaner with Side Terminal Brush. Cleans positive and negative posts and cable clamps. Includes a small, circular wire brush with a protective cap to clean side terminals. Red plastic body.

BTC8A Terminal Cleaner. Cleans positive and negative posts and cable clamps. Red plastic body. 3 1/2" long.

BTC10 Side Terminal Cleaner. Cutters on one side clean battery contacts; brush on the other side cleans cable contact. 4 1/2" long.

PWC35 Terminal Crimper. Will easily crimp heavy-duty terminal wire: 4, 2, 1, 2/0, 3/0, and 4/0 AWG sizes. Adjustable arms, dies, and frame assembly. Includes adjustment instructions and a die setting chart.

YA9484 Battery Terminal Crimper. Ideal for replacing or repairing battery cable terminal ends. Special design helps prevent overcrimping. Terminal sizes 6-ga. through 4/0.

YA249 GM Battery Terminal Wrench. Ratcheting box wrench design for use on GM side terminal batteries. 5/16" hex, 5 1/2" long.

YA249L Side Terminal Battery Wrench. Extra long 9 3/4" in length makes this tool indispensable when connecting/disconnecting battery side terminals on 1994 and later Ford Aerostar vans and GM vehicles including: 1994 and later Pontiac Grand AM, Lumina APV, "W" body cars, plus Buick Regal, Olds Cutlass, Chevrolet Lumina, and Pontiac Grand Prix. 5/16" wrench size.



Cable Clamp Tools

208BCP Angle Nose Pliers. Rounded nose protects battery from damage. Jaws are offset 30° for better leverage. 7 3/4" long.

B260A Cable Clamp Pliers. Spreads and cleans cable clamps. Has a prybar on one end. 7 3/8" long.



GA486A Cable Clamp Pliers. Removes cable clamps without damaging posts. 4" long.

CJ92 Cable Clamp Puller. Self-locking jaws securely grip terminal and pulls without damage to post. 1 3/4" spread.



Hydrometers

BT101 Battery Hydrometer. Determines specific gravity from 1.100 to 1.300. Just read the pointer—no temperature tables required or difficult float reading to observe. Design enables both customer and technician a viewing opportunity to see the state of the battery acid.

BB4C Hydrometer/Thermometer. Measures specific gravity from 1.100 to 1.300 and includes a quick-reference, color-coded "poor," "fair," or "good" scale plus a temperature corrections scale. 14 3/4" long.



Fillers

BB6 Filler Bulb. Bulb has a 6-oz. fluid capacity. Hard rubber stem features an overflow for dripless filling. 10 1/2" long.

GA207A Automatic Filler. Insert spout into fill hole and press. Fills battery to correct level without overflow.

Service Kits

(All components are described and illustrated on this page.)

2005BSKA Battery Service Set. 5 pcs. Includes:

- 208BCP Angle Nose Pliers.
- B260A Cable Clamp Pliers.
- BTC10 Side Terminal Cleaner.
- BTC7B Terminal Cleaner with Side Terminal Brush.
- CJ92 Self-Locking Cable Clamp.
- C56 Vinyl Kit Bag.

2004BSKA Battery Service Set. 4 pcs. Includes:

- 208BCP Angle Nose Pliers.
- BTC10 Side Terminal Cleaner.
- BTC3A Terminal Brush.
- YA249 GM Battery Terminal Wrench.
- C0410A Vinyl Kit Bag.

2005BSKA

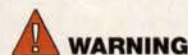


2004BSKA



Carriers

BL1B Battery Carrier. For top post and side terminal batteries. Rubber pads securely grip battery widths from 5" to 7". Plastic hand-grip provides a firm hold.



WARNING
• Read additional safety precautions on pages M1 to M4.



See Warranty Information on inside front cover.

Cooling



Cooling System Vacuum/Fillers

RADPLUSA Cooling System Filler.

Empty/refill coolant systems and perform leak tests in just minutes. Connects to most engine cooling systems at radiator filler neck or reservoir. No need to cut heater hoses or disconnect radiator hoses. Evacuates most systems in less than three minutes. Refills most systems in seconds, larger systems in less than two minutes. Safely stores used coolant in large 12-gallon (45.4 liter) holding reservoir. Eliminates need for burping and warm-up. Evacuates cooling system with vacuum generated by shop air.

RADPLUSA

RADKITPLUSJR



RADKITPLUSJR Cooling System Filler.

Reduces system filling time, eliminates airlocks and checks for system leaks. Compact size allows access in restricted under-hood areas. Cone adaptor ensures unit will work on most domestic and import passenger vehicles and light trucks. Push-button control valve eliminates the need to interchange hoses. Shop air (90 psi, 6 BAR minimum) quickly draws a powerful vacuum. Eliminates system bleeding and purging. Works on all cooling systems. Made of lightweight, rugged glass reinforced nylon.

Radiator and Freeze Plug Tools

YA2090 Radiator Cap Wrench. Pliers-type wrench grips and removes radiator caps with or without wings. 7 1/2".

YA9190 Universal Radiator Drain Plug Socket. The double-slotted end of this 3/8" drive socket will fit most radiator drain plugs that have thumb wings. Will fit Acura, Honda, Toyota, Lexus, and other imports.

2009FPI Freeze Plug Installer Kit. Includes an 18 1/2" long installing tool with ball-type swivel for easy positioning, plus seven installer heads in 20, 25, 30, 35, 40, 45, and 50mm sizes.

YA7747 Pneumatic Adaptor. Pneumatic power speeds freeze plug installation. Can be used with 2009FPI Installer Kit. .401" Parker-style shank enables use with air hammers.

CG25 Freeze Plug Puller. For freeze plugs up to 2" in diameter. 1/4" thick yoke receives 2 7/8" long self-tap screw. Drill 17/64" hole first.

GA424A Belt Tension Gauge. Range is 30 to 180 lb. (130 to 800 N•m). Squeeze handle, place gauge on drive belt, release handle, and read.

Testers



Anti-freeze and Coolant Testers

AF102 Anti-freeze Hydrometer. Degree of protection is indicated by direct reading—no temperature-compensating scales are required. Range of +32°F to -60°F. Includes Celsius scale. Tests hot and cold solutions.

AF109 Propylene Glycol Tester. Tests propylene glycol antifreeze solutions to -49°F. Each floating ball is in its own channel so that bunching up or clinging together does not occur or cause incorrect readings.

EETA305A Refractometer. Quickly and accurately determines the freezing point of propylene and ethylene glycol-based antifreeze solution. Also gives indication of the charge level in battery acid. Features a focusing eyepiece that provides a sharp, easy-to-read scale. Ambient room lighting provides adequate illumination—no special direction or angle required to view reading. Includes steel and glass constructed head and prism, rubber finger grip, and focusing eyepiece with eyecup. Specification range: -50°F to 32°F propylene glycol, with 10° divisions; -60°F to 32°F ethylene glycol, with 10° divisions.

CEN3059 Coolant Ph Test Strips. Use to accurately read acidic or alkaline condition of antifreeze. Package of 150.

E35

Radiator Tools

RADKITPLUSA Cooling System Filler. Easily eliminate cooling system air locks that can cause overheating. Vacuum test checks for system leaks prior to filling. Gauge protector helps prevent damage to gauge housing. Push button vacuum valve for easy valve operation.

RADKITPLUSA

RADKITPLUSA Specifications

Height, inches (mm)	50 (1,270)
Width, inches (mm)	19 (480)
Length, inches (mm)	20 (510)
Weight, lbs. (kg)	49 (22.3)
Air Supply Required	90 PSI (4.2 CFM/6.26 BAR)



SVTSRAD262



SVTSRAD262 Cooling System Filler.

Easily eliminate cooling system air locks that can cause over heating. Ideal for vehicle specific shops or municipal garages. Expands the versatility of SVTS262A Cooling System Testers as the SVTSRAD262 uses the same adaptors. Adaptors are available separately for virtually all import and domestic automobiles and light trucks. Chrome finish helps resist corrosion. Liquid filled gauge provides an accurate reading. Unit is field serviceable. Key sealing component of the coupler is a field replaceable O-ring which allows easy replacement of the gauge. Large easy-to-use valve handles. Heavy duty construction for long term durability. Made in USA. Includes main body assembly, venturi and hose assembly, suction hose assembly, instruction manual with complete adaptor list and plastic storage case for all components.

YA4505 Universal Radiator Adaptor. Universal light truck and automobile radiator adaptor is compatible with all brands of radiator pressure testers. Offers 95% application coverage on cars and light trucks. Replaces as many as 25 other costly radiator adaptors. Compatible with radiator necks or reservoir tanks. Quick & easy to use with minimal setup time. Durable construction for years of reliability. Can be used with Snap-on® RADKITPLUS or RADPLUSA Cooling System Fillers, YA4000A Vacuum and Pressure Pump, and SVTS262A Cooling System Tester.

YA4505



YA2090



YA9190



CG25



YA7747



2009FPI



GA424A



YAUVCOOL



GDCT16



Leak Testers

YAUVCOOL Coolant Dye Accessory Bottles (Six 1 oz.)
Use with ACTUVLITEA.

GDCT16 Head Gasket Leak Test Kit. Check for leaks between the combustion chamber and the cooling system. Kit includes complete test chamber, a bottle (16 oz.) of indicator fluid, and instructions. Test head and gasket for combustion leaks before removing the radiator. Double chamber provides a high level of accuracy. For gas and diesel applications.

GDCT161 Leak Test Fluid. Optional 16 oz. bottle.

▲ Read safety precautions on pages M1 to M4.

Testers Cooling

TA16B



TA23A



TA18B



TA26A



TA30A



TA31A



TA32A



TA33A



TA34A



TA36GM



TA37



TA38B



TA39A



TA40



TA41



TA44



TA45



TA46



TA47



TA48



TA49



TA245A



TA246A



TA345A



TA346A



A4503A



A450A



Cooling System Tester Accessories

Radiator adaptors and cap adaptors listed below can be used with the SVTS262 and SVTS262A Cooling System Testers. See SVTS262A Cooling System Tester Instruction Manual for complete listing of specific model year applications.

Radiator Adaptor	Cap Adaptor	Application
SVT262-28	SVT262-29	Applications include Acura, Chevrolet, Chrysler/Dodge/Eagle/Plymouth, Ford/Lincoln/Mercury, Geo, Honda, Hyundai, Infiniti, Isuzu, Lexus, Mazda, Mitsubishi, Nissan, Subaru, Suzuki and Toyota.
TA16B	TA23A	Applications include Volkswagen and Audi.
TA18B	TA26A	Applications include Volvo, Saab, Jeep, Sterling and Renault.
TA30A	TA31A	Applications include Volkswagen.
TA32A	TA33A	Applications include Buick, Cadillac, Chevrolet, Ford, International, Mercedes, Oldsmobile, Pontiac and Saturn.
TA34A	—	Applications include Ford, Jaguar, Pontiac, Porsche, Range Rover and Saab. Use with TA246A Cap Adaptor.
TA36GM	TA37	Applications include Cadillac, Chevrolet, Geo, GMC, Pontiac, Oldsmobile and Saturn.
TA38B	TA39A	Applications include Acura, Chevrolet, Chrysler, Geo, Honda, Isuzu, Lexus, Mazda, Mitsubishi, Suzuki and Toyota.
TA40	TA41	Applications include Audi and Volkswagen.
TA44	TA45	Applications include Mercedes.
TA46	TA47	Applications include Ford, Jaguar and Mazda.
TA48	TA49	Applications include Toyota.
TA245A	TA246A	Applications include BMW and Merkur.
TA345A	TA346A	Applications include BMW and Range Rover.
A450A	Truck Adaptor Kit	For trucks with "B" size (2 11/16" OD) filler neck adaptors. Includes A450-1A Rubber Plug.
A450-1A	Rubber Plug	Use with A450A Truck Adaptor Kit (above) or as a replacement plug for A4503A GM Adaptor Kit (below).
A450-2A	Rubber Gasket	Use with A450A Truck Adaptor Kit (above) or as a replacement gasket for A4503A GM Adaptor Kit (below).
A4503A	GM Adaptor Kit	Tests system pressure on closed cooling systems on GM 2.5L "X" body cars and 1.8L "J" body cars.

SVTS262A



Cooling System Testers

SVTS262A Cooling System Tester. Test pressure caps and cooling systems for leaks on a wide variety of domestic and import vehicles. Cap has rotating lever for fine pressure adjustment. Set features hand pump and tester head with 12" hose that reads in both PSI and kPa. Improved material in pump head is corrosion resistant. Includes SVT262-28, TA36GM and TA38B Radiator Adaptors plus SVTS262-23 Plastic Storage Case. Reference SVTS262A Instruction Sheet for complete listing of manufacturer and individual model applications.

SVT262-23 Plastic Storage Case. For SVTS262A Cooling System Tester.



WARNING

- Wear safety goggles while working with pressurized systems.
- Read additional safety precautions on pages M1 to M4.



Cooling Service Tools



Heater Hose Clamp Pliers

HCP48CP Corbin Heater Hose Clamp Pliers (8"). For 3/4" to 2" diameter clamps. Jaws close to within 1/8". Has red plastic grips.

HCP46CP Corbin Heater Hose Clamp Pliers (6 13/32"). Similar in appearance to HCP48BP. For less than 3/4" diameter clamps. Jaws close to within 1/16".

HCP9 Corbin Heater Hose Clamp Pliers (9"). Removes or replaces all spring wire hose clamps. Deep-slotted jaws swivel 180° and lock in three different positions.

HCP10 Mobeas Heater Hose Clamp Pliers (9"). Same as HCP9, except for new-style hose clamps found on GM, Ford, VW, BMW, Toyota, Volvo, and Audi cars.

HCP10RK Service Kit. Includes one pair of replacement tips plus a replacement spring for HCP10.

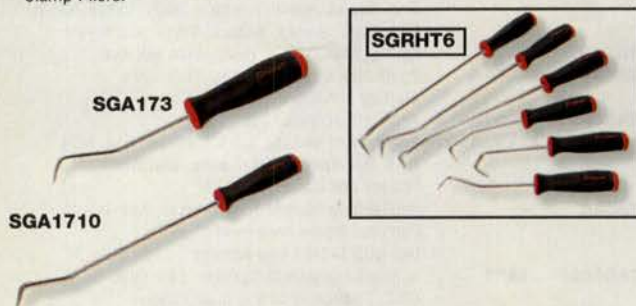
HCP20 Mobeas Heater Hose Clamp Pliers. For heater and radiator hoses found on 1988 through 1990 GM, Ford, Chrysler, and most imports. Jaws pivot to almost any angle.

YA9660 Heater Hose Pliers. Use to break hoses loose from corroded fittings and pull free. Hose grippers rotate 90° for access to hoses in confined areas. Pliers also feature soft grip handles. 7" long.

YA497A Hose Removal Pliers. Designed to simplify removal of 5/32" to 1/2" vacuum and fuel hoses. 8" in overall length.

YA28650 Hose Clamp Pliers. Removes metal and plastic self-tightening hose clamps with diameters from 11/16" to 2 1/2" (18 to 54mm). Can also lock clamp in the open position. 23" flexible cable gives access to restricted access clamps. Locking mechanism allows use of both hands to operate clamp. Eliminates the need to continually squeeze pliers. One-handed operation. Industrial black finish with plastic coated handles.

YA28650-1 Replacement Cable. Replacement cable for YA28650 Hose Clamp Pliers.



Soft Grip Hose Picks

Ideal for removing and replacing hoses and clamps. Unique hose blade design for getting around the most difficult obstacles. Soft solvent resistant handle material provides a sure comfortable grip. All shanks are chrome plated to resist corrosion.

Stock No.	Finish	Blade Length, inches (mm)	Length, inches (mm)
SGA173	Chrome	5.43 (137.9)	10.33 (262.4)
SGA174	Chrome	4.94 (125.5)	9.84 (249.9)
SGA175	Chrome	4.61 (117.1)	9.51 (241.6)
SGA1710	Chrome	11.66 (296.1)	16.56 (420.6)
SGA1711	Chrome	10.89 (276.6)	15.79 (401.1)
SGA1712	Chrome	11 (279.6)	15.91 (404.1)

SGA173 Soft Grip Hose Pick. Use for easy access applications.

SGA174 Soft Grip Pick. Angle is perfect for tight access firewall applications.

SGA175 Soft Grip Pick. Angle is ideal for getting behind hoses and pulling.

SGA1710 Soft Grip Hose Pick. Longest pick for extra reach.

SGA1711 Soft Grip Pick. Length and angle are designed for tight access and long reach firewall applications.

SGA1712 Soft Grip Pick. Long pick easily maneuvers around obstacles.

SGRHT2 Radiator Hose Remover Set. Includes SGA173 and SGA1710.

SGRHT6 Soft Grip Pick Set. Includes SGA173, SGA174, SGA175, SGA1710, SGA1711 and SGA1712 (6 pcs).

YA35610 Hose Clamp Pliers. Easily reaches hard-to-access Flat Band and Mobeas hose clamps. Use on radiator hoses, heater hoses and fuel lines. 20" flexible cable reaches hard-to-access clamps. Pistol-grip handle easily opens the clamp with a simple squeezing motion. Pliers lock with each squeeze of the handle leaving both hands free. Release lever easily unlocks pliers. Mobeas clamps are easily expanded to the self-locking position. Made in the USA

PHP1 Hose Clamp Pliers. Clamp off hoses up to 1 1/4" in diameter. Swivel jaws for parallel clamping action. 9 1/4" in overall length.

PHP2 Hose Clamp Pliers. Clamp off hoses up from 1 1/4" to 2 3/4" in diameter. Swivel jaws for parallel clamping action, 4 3/8" jaw length. 14" long.

PHP3 Hose Clamp Pliers. Clamp off hoses up to 3/4" in diameter. Swivel jaws for parallel clamping action. 1 1/4" jaw length. 5 1/2" long. Black industrial finish.

YA9566 Mobeas Hose Clamp Pliers Set. Includes three hose clamp pliers for GM and Chrysler applications. Use the YA9566 Set for these applications:

Chrysler: Concorde, New Yorker, LHS with 3.3L and 3.5L. Dodge Intrepid with 3.3L and 3.5L. Eagle Vision with 3.3L and 3.5L.

GM: Buick, Chevrolet, Oldsmobile, Roadmaster, Caprice, Custom Cruiser, Cadillac, Electra, Park Avenue, Ultra DeVille, Fleetwood '98, Regency, Chevrolet Pontiac, Camaro, Firebird, Pontiac, Le Sabre 88, Royal Bonnevillie, Cavalier, Sunbird, Skylark, Achieva, Calais Grand Am, Lumina APV, Silhouette, Trans Sport, Regal, Lumina, Cutlass Supreme, Grand Prix.

YA9560 Straight Adjustable.

YA9562 45° Angle Adjustable.

YA9564 90° Side Loader Adjustable.

YA9562 Mobeas Hose Clamp Pliers. 45° angle adjustable pliers. Feature adjustable width capability which enables tip adjustment for any size Mobeas hose clamp.

YA9564 Mobeas Hose Clamp Pliers. 90° side loader style adjustable pliers. Feature adjustable width capability which enables tip adjustment for any size Mobeas hose clamp.

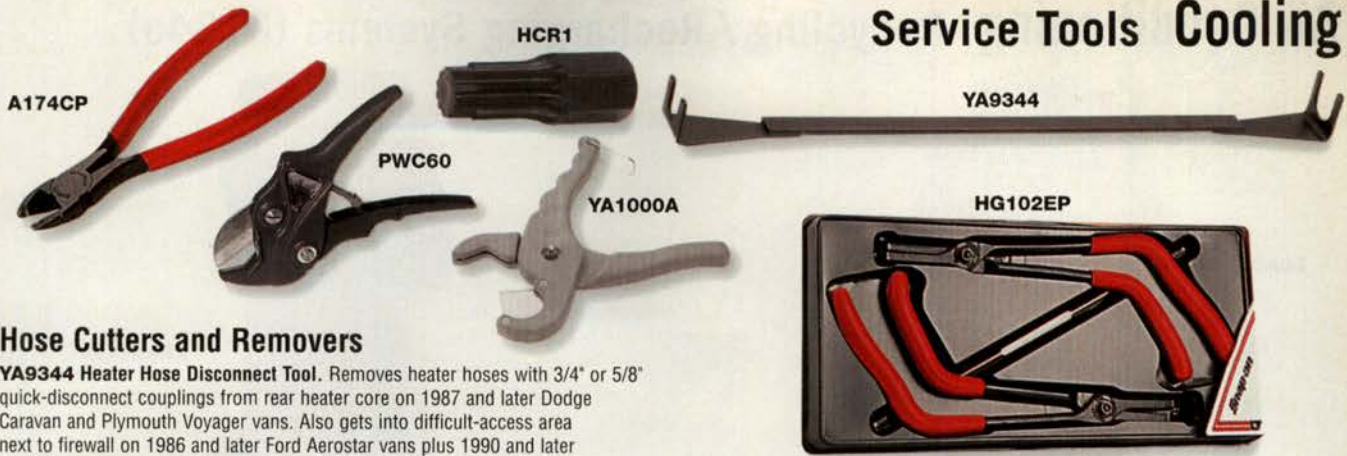


Air Coupling Quick Release Pliers

Quick release pliers for fast removal of quick disconnect air couplings. Easily removes overflow water lines, vacuum lines, power steering lines, PVC lines and wiper lines. Applications include:

- Road Tractors: International, Kenworth, Peterbilt, Freightliner, GMC, Ford
- Cars and Pick-up Trucks: Isuzu Trooper / Rodeo, Hyundai, Chevy Z24, Z28, Blazer, 1500 Suburban, Lumina
- Farm Equipment: Piedmont Tractor Equipment

Stock No.	Size	Head Style	Application
QRPLV	Large	Straight	3/8", 1/2", 5/8" Hose O.D.
QRPSV	Small	Straight	1/8", 1/4", 3/8" Hose O.D.
QRPLA	Large	Angled	3/8", 1/2", 5/8" Hose O.D.
QRPSA	Small	Angled	1/8", 1/4", 3/8" Hose O.D.



Hose Cutters and Removers

YA9344 Heater Hose Disconnect Tool. Removes heater hoses with 3/4" or 5/8" quick-disconnect couplings from rear heater core on 1987 and later Dodge Caravan and Plymouth Voyager vans. Also gets into difficult-access area next to firewall on 1986 and later Ford Aerostar vans plus 1990 and later Ford Econoline vans.

A174CP Hose Clamp Cutter (7 1/16"). For cutting radial clamps used on radiator hoses as original equipment. Has bow-type, plastic-grip handles. Not for cutting stainless steel bands.

YA1000A Multi-Cutter. Ideal for cutting heater hoses, fuel line hoses, copper wiring, PVC pipes, wiper hoses, and air brake hoses, plus any resilient or semi-resilient material with a 0" to 1 1/8" diameter. Comfort contoured handles with red plastic grips. Wire loop for safe storage. 9 5/8" long.

PWC60 Compound Leverage Hose Cutter (8 1/2"). Compound action multiplies normal hand pressure to easily slice through many types of rubber and plastic hose up to 1 1/8" in diameter. Includes stainless steel cutter blades and internal components.

HG102EP Hose Pulling Pliers Set. Use to easily loosen radiator hoses, PVC, spark plug boots and vacuum lines. Round jaw tip grips hose securely without damage. Replaceable internal spring ensures that the tool is in the "ready-to-work" position. Pistol grip design increases applied torque while helping to reduce repetitive strain injuries. Large reach answers tough access problems. Contains HG410EP and HG416EP in plastic tray.

HG410EP. 5/16" inside diameter (nose) Red grips. 12 1/2" long

HG416EP. 1/2" inside diameter (nose) Red grips. 12 1/2" long

HCR1 Heater Hose Coupler Remover. Removes broken heater hose couplers on GM engines. After driving tool into broken coupler, turn out with 5/8" socket or wrench to remove. Can also be used with an impact wrench.



Fan Clutch Wrenches / Pulley Holders

YA9325 Ford Fan Clutch Wrench Set. 36mm and 58mm set. Includes YA9325-1 and YA9325-2. GAS APPLICATIONS: E-Series trucks 4.9L (1984-1991), F-Series trucks 4.9L (1984-1992), Bronco II and Ranger 2.8L (1984-1985), Ranger 2.9L (1986-1992), Aerostar 3.0L (1986-1988), Aerostar and Ranger 4.0L OHV (1990 and later), Explorer 4.0L OHV (1991 and later), Mazda Navajo 4.0L OHV (1991-1994), Mazda B4000 4.0L OHV (1995 and later), Explorer 4.0L V6 SOHC (1997 and later) and Mountaineer 4.0L V6 SOHC (1998 and later).

YA9325-1 Metric Flat Wrench. 36mm wrench size, 13 1/2" long.

YA9325-2 Crowfoot Wrench. 58mm wrench size, 5 1/2" long.

YA9526 Ford Fan Clutch Wrench. 40mm Open End Wrench. Use with YA9325-2 or YA9522. Applications include 4.9L Econoline vans (1992-1996) and 4.9L F-Series Pick-ups (1993-1996).

YA9980 Pulley Tool. Use on vehicles with pressed-on pulleys. These style pulleys rely on holes instead of bolt heads to stop the pulley from rotating when removing/installing the fan clutch assembly. Use on GM (4.8L V8, 5.3L V8, 6.0L V8 1999 and later) and Chrysler (3.9L V6, 4.7L V8, 5.2L V8, 5.9L V8, 8.0L V10 1998 and later). Cannot be used on Chrysler 4.7L V8 using factory replacement water pumps.

YA6150 GM Fan Clutch Pulley Holder. The four pins in this tool give the technician greater durability than tools presently available. These pulleys have holes instead of bolt heads to keep the pulley from rotating during installation or removal of the fan clutch assembly. Use with 48mm open end wrench (YA9521) to loosen or tighten the fan clutch on many 2000 and later G.M. trucks. Applications include GM 6.5 L diesel engines (2000 and later) and GM/Isuzu-Duramax 6.6 L diesel engines (2001 and later).

YA6160 Universal Fan Clutch Pulley Holder. Removes and replaces the fan clutch on vehicles using "bolt-on" water pump pulleys. Reverse pulley holder for assembly operations. Use with YA9521 36/48mm Wrench or YA9526 40mm Wrench for many Chrysler, Ford, Lincoln, Mercury and GM applications.

YA6120 Fan Clutch Wrench Set. Includes YA9521 Wrench and YA6160 Fan Clutch Pulley Holder.

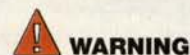
FORD/LINCOLN/MERCUY APPLICATIONS: E-Series trucks 4.9L (1984-1991), F-Series trucks 4.9L (1984-1992), Bronco II and Ranger 2.8L (1984-1985), Ranger 2.9L (1986-1992), Aerostar 3.0L (1986-1988), Aerostar and Ranger 4.0L OHV (1990 and later), Explorer 4.0L OHV (1991 and later), Mazda Navajo 4.0L OHV (1991-1994), Mazda B4000 4.0L OHV (1995 and later), Explorer 4.0L V6 SOHC (1997 and later) and Mountaineer 4.0L V6 SOHC (1998 and later).

GM APPLICATIONS: Astro and Safari vans 4.3L, Blazer, Jimmy and Bravada SUV 4.3L, S10, Sonoma and Isuzu Hombre pick-ups with 2.2L 4-cy. and 4.3L V6, C1500, C2500, C3500, K1500, C1500/C2500/C3500/K1500 Sierra Pick-ups, G1500/G2500 Chevy Express, G1500/G2500 Savana vans 4.3L V6, 5.0LV8 and 5.7L V8; and Suburban, Tahoe, Yukon, Escalade, Denali and Envoy 5.7L V8.

YA9521 Flat Wrench. 36mm/48mm wrench size, 14" long.

YA6210 BMW Wrench. 32mm fan clutch wrench is used with YA6160 Fan Clutch Pulley Holding Tool to service Audi vehicles (1996 and later) plus BMW 3, 5, 6, 7, 8, x and Z series vehicles. (YA6160 works on all models listed except 4.0L and 4.4L V8 engines.) Made in USA from heat treated steel. Vinyl handle covering. Overall length of 17" (431.8mm).

YA6180 GM/Ford Fan Clutch Wrench. Use on GM and Ford diesel and gas engines with a 48mm fan clutch nut. Provides the extra leverage needed to remove the fan clutch nut. Overall Length of 20.12" (511.2mm). Head Width of 4.12" (104.8mm). Head Thickness of 0.38" (9.5mm).



WARNING

• Read additional safety precautions on pages M1 to M4.

See Warranty Information on inside front cover.

Air Conditioning Recycling / Recharging Systems (R134a)

EEAC320A



EEAC316A



KOOL KARE™ Xtreme A/C Service Centers (R134a)

Features:

- True single pass recycling system
- Simple, menu driven operation with prompts and button controls
- Programmable vacuum hold time
- Automatic high pressure shut-off
- Automatic purge of air and other non-condensable gases
- Software upgrades available
- Filter/Dryer for removal of moisture and particles
- Electronic filter life monitor
- Accumulator/Suction separator for removal of oil and other contaminants
- Convenient front mounted oil charge and oil drain bottles
- 50 lb. recovery tank with digital electronic scale
- Integral panel mounted high and low side gauges and control valve
- Two-built-in storage trays
- Rugged, scratch resistant polyethylene roll-around cabinet
- 4 x 20 backlit LCD display
- Meets all current SAE, UL and CSA standards for operation, performance and purity

EEAC319A KOOL KARE™ Xtreme with Vacuum Pump. Same as EEAC320A but also includes vacuum pump (1.5CFM, reciprocating, 100 microns).

EEAC320A KOOL KARE™ Xtreme. The EEAC320A KOOL KARE™-Xtreme offers both high speed and simplified operation for complete R134a A/C Service. Quickly performs recovery, recycling, evacuation, leak tests and recharge operations on all R134a systems. Extra large 50 lb. recovery tank offers the user high capacity with less downtime. Auto sequence function for unattended operation with end-of-cycle audio alarm.

ECO Xtreme™ A/C Service Center (R134a)

Features:

- Informative 4 x 20 character LCD display
- Large 50 lb. recovery tank.
- Simple menu-driven operation
- Programmable electronic timer
- Automatic air purge
- Integrated dual gauge set
- Electronic "life monitor" for filter-drier
- Front mounted easy-view oil purge bottle
- Fast single-pass recovery/recycling
- Storage trays for tools and accessories
- User selectable languages (English, Spanish and French)
- Automatic TANK FULL and HIGH PRESSURE shut-off
- Dent resistant, rustproof molded plastic housing
- UL Listed and SAE approved

EEAC318A ECO Xtreme™ with Vacuum Pump. Same as EEAC316A but also includes vacuum pump (1.5CFM, reciprocating, 100 microns).

EEAC316A ECO Xtreme™. The EEAC316A ECO-Xtreme™ offers both high speed and simplified operation for complete R134a A/C Service. Quickly performs recovery, recycling, evacuation, leak tests and recharge operations on all R134a systems. Extra large 50 lb. recovery tank offers the user high capacity with less downtime. Easy push-button operation. Four-line LCD display screen shows more information. All operations are performed through menu selections and two convenient panel-mounted control valves. Sturdy molded-plastic housing resists dents, rust and scratches. Electronic "filter life" monitor automatically indicates when filter-drier replacement is necessary. Includes Low and High-side service fittings plus 50 lb. recovery tank.

EEAC316ACV Protective Cover. For EEAC316A/EEAC318A and EEAC319A/EEAC320A A/C Service Centers.

Specifications	EEAC319A	EEAC320A	EEAC318A	EEAC316A
Operating Temperature Range	50°F to 120°F (10°C to 49°C)	50°F to 120°F (10°C to 49°C)	50°F to 120°F (10°C to 49°C)	50°F to 120°F (10°C to 49°C)
Relative Humidity	Up to 80% non-condensing	Up to 80% non-condensing	Up to 80% non-condensing	Up to 80% non-condensing
Operating Pressure	450 PSI (max.)	450 PSI (max.)	450 PSI (max.)	450 PSI (max.)
Pressure Range	30inHg-300 PSI	30inHg-300 PSI	30inHg-300 PSI	30inHg-300 PSI
Storage Temperature Range	-4°F to 140°F (-20°C to 60°C)	-4°F to 140°F (-20°C to 60°C)	-4°F to 140°F (-20°C to 60°C)	-4°F to 140°F (-20°C to 60°C)
Compressor	1/3 HP, 1.1 CFM reciprocating	1/3 HP, 1.1 CFM reciprocating	1/3 HP, 1.1 CFM reciprocating	1/3 HP, 1.1 CFM reciprocating
Vacuum Pump	1/6 HP, 1.5 CFM, reciprocating, 200 microns	—	1/6 HP, 1.5 CFM, reciprocating, 200 microns	—
Gauge Ranges	Hi Side: 500 PSI (34 BAR) max. Lo Side: 300 PSI (21 BAR) max.	Hi Side: 500 PSI (34 BAR) max. Lo Side: 300 PSI (21 BAR) max.	Hi Side: 500 PSI (34 BAR) max. Lo Side: 300 PSI (21 BAR) max.	Hi Side: 500 PSI (34 BAR) max. Lo Side: 300 PSI (21 BAR) max.
Recovery Amount	45 lbs. (20.41 kg) max.	45 lbs. (20.41 kg) max.	45 lbs. (20.41 kg) max.	45 lbs. (20.41 kg) max.
Recovery Rate	1 lb. Per minute (max.)	1 lb. Per minute (max.)	1 lb. Per minute (max.)	1 lb. Per minute (max.)
Refrigerant Charge Amount	42 lbs. (19.05 kg) max.	42 lbs. (19.05 kg) max.	42 lbs. (19.05 kg) max.	42 lbs. (19.05 kg) max.
Recovery Tank	50 lb. with purge port	50 lb. with purge port	50 lb. with purge port	50 lb. with purge port
Charge Oil Bottle	7 oz. (0.2 kg)	7 oz. (0.2 kg)	7 oz. (0.2 kg)	7 oz. (0.2 kg)
Drain Oil Bottle	7 oz. (0.2 kg)	7 oz. (0.2 kg)	7 oz. (0.2 kg)	7 oz. (0.2 kg)
Dimensions	29"D x 46"H x 23"W	29"D x 46"H x 23"W	29"D x 46"H x 23"W	29"D x 46"H x 23"W
Electrical Requirements	120VAC, 60 Hz, 6 amps max.	120VAC, 60 Hz, 6 amps max.	120VAC, 60 Hz, 6 amps max.	120VAC, 60 Hz, 6 amps max.
Shipping Weight, lbs. (kg)	185 (83.91)	175 (79.38)	185 (83.91)	175 (79.38)

Service Equipment (R134a and R12) Air Conditioning

ACT2020KT



EEAC312C



A/C Systems Tester

ACT2020KT A/C Systems Tester. Use with R134a, R12 and retro-fitted air conditioning systems. Provides fast, accurate temperature differentials confirming proper system analysis. The collected Real-Time data will quickly determine if the A/C system is operating properly. If not, the display will indicate one of four number codes to pinpoint a failure in the system. Each code offers a list of possible causes allowing the technician to perform a proper diagnosis. Powered by 9-volt battery. Kit includes basic diagnostic tool, ACT2020KT1 Antenna, ACT2020KT2 Ambient Probe Assembly, ACT2020KT3 Ribbon Thermocouples and ACT2020KT4 Storage Case.

ACT2020KT1 Antenna. For ACT2020KT A/C Systems Tester.

ACT2020KT2 A/C Systems Tester. Ambient probe assembly for ACT2020KT A/C Systems Tester.

ACT2020KT3 Ribbon Thermocouples. For ACT2020KT A/C Systems Tester.

ACT2020KT4 Storage Case. For ACT2020KT A/C Systems Tester.

ACT2020KTPF Pressure Reading Fittings. Pressure fittings are designed to take high and low pressure readings. Optional accessory for ACT2020KT A/C Systems Tester.

ACT2020KTPM Infrared Printer Module. Infrared printer module allows connection to an existing printer to print a hard copy of the test results to attach to work order. Optional accessory for ACT2020KT A/C Systems Tester.

ACT2020KTPR Infrared Printer. Infrared printer can be used to print a hard copy of the test results to attach to work order. Optional accessory for ACT2020KT A/C Systems Tester.

Halogen Leak Detectors

ACTCOMBO UV and Gas Detection Kit. Perform electronic or UV leak detection with one tool. Detects all halogenated refrigerants. Digital state-of-the-art micro processor can detect leaks as small as 1/10 oz (3 gr.) per year. Six levels of sensitivity (with 15 levels of detection) insure accurate test results. Product features include tri-colored visual leak level indicator, variable frequency audible alarm, easy-to-use keypad controls, ergonomic cushion grip handle plus Auto Reset, Battery Test and Mute functions. SAE J1627 conformity. EU/CE - ES, DE, FR, UK. Includes ACT755 Electronic / UV Leak Detector, UV dye injector with 25 applications of A/C Dye, R134a connection hose, R12 adaptor, 25 information labels, dye cleaner, UV enhancing glasses, instruction manual and plastic storage case.

- Microprocessor controlled circuit with Advanced Digital Processing
- Mute function
- Keypad control
- Non-conductive coating on sensing tip prevents shorts
- Flexible Probe
- Optional reference leak source
- Detects all halogenated refrigerants
- Variable frequency audible alarm
- True mechanical pump
- One-touch reset
- Constant power indication
- Cordless portability
- Spare sensing tip included

ACT755 Automatic Halogen Leak Detector. Perform electronic or UV leak detection with one tool. Detects all halogenated refrigerants. Digital state-of-the-art micro processor can detect leaks as small as 1/10 oz (3 gr.) per year. Six levels of sensitivity (with 15 levels of detection) insure accurate test results. Product features include tri-colored visual leak level indicator, variable frequency audible alarm, easy-to-use keypad controls, ergonomic cushion grip handle plus Auto Reset, Battery Test and Mute functions. Includes flexible six inch (154.4mm) probe with built-in ultra bright UV light, UV safety glasses and custom carrying case. SAE J1627 conformity. EU/CE - ES, DE, FR, UK

ACT730 Automatic Halogen Leak Detector. Detects all halogenated refrigerants. Digital state-of-the-art micro processor can detect leaks as small as 1/4 oz (7 gr.) per year. Three levels of sensitivity (with five levels of detection) insure accurate test results. Product features include visual leak level indicator, variable frequency audible alarm, easy-to-use keypad controls, ergonomic, cushion grip handle plus Auto Reset and Battery Test Functions. Includes flexible six inch (154.4mm) probe with built-in ultra bright UV light and custom carrying case. SAE J1627 conformity. EU/CE - ES, DE, FR, UK

ACT7301 Replacement Tip. For ACT730 and ACT755 Leak Detectors.

See Warranty Information on inside front cover.

Automotive Refrigerant Identifier

EEAC312C Automotive Refrigerant Identifier. Verifies 98% purity on R134a and R12 systems. Also verifies that an R134a retrofitted vehicle meets the SAEJ1661 98% purity standard. Identifies "air-diluted" refrigerant problems. Analyzes and identifies R134a, R12, R22, known refrigerant blends and other hydrocarbons to protect against expensive cross-contamination problems in vehicles, recovery/recycling machines, and storage cylinders. Audible and visual alarms alert the user to the presence of flammable refrigerants. LCD display shows actual percentages of hydrocarbon-based refrigerants in the tested air-conditioning system.

EEAC515A



Refrigerant Recovery System

EEAC515A High Performance Commercial Refrigerant Recovery System. Recovers all medium and high pressure refrigerants including R410A. Use to quickly and easily recover refrigerant from salvaged vehicles. Self-purging system requires no hose changes.

Features:

- Advanced Oil-less Compressor
- High Performance Condenser
- Retractable Power Cord
- Storage Pocket for Operating Instructions

- Two Cooling Fans
- Large, Easy-To-Read Gauges
- Built-in Handle

Specifications

Voltage	120VAC, 50/60 Hz
Compressor	Oil-less with single valve liquid head
Motor	8 amp (High Torque)
Vacuum Rating	13" Hg+
High Pressure Limit	550 PSI
Recovery Rate / Liquid	4.5 lbs./min.
Recovery Rate / Liquid Push-Pull	15 lbs./min.
Recovery Rate / Vapor	0.3 lbs./min.
Weight, lbs.	24
Overall Dimensions	17" L x 9 1/2" W x 11" D



ACTCOMBO



ACT755

Specifications for ACT730, ACT755, and ACTCOMBO

Duty Cycle	Continuous
Fixed Probe Length	6"
Operating Temperature	30° to 125°F (0° to 53°C)
Overall Dimensions	9" x 3" x 2.5"
Power Supply	3 VDC (2 "C" alkaline batteries)
Reset Time	1 second
Response Time	Instantaneous
Sensing Tip Life	20 Hrs.
Warm-up Time	2 to 3 seconds
Battery Life	30 Hrs.



WARNING

- Wear safety shield (user and bystanders).
- Read additional safety precautions on pages M1 to M4.



Air Conditioning R134a And R12 Service Equipment

ACTUVDYEKIT



ACTUVQUADKT



ACTUVMINI4



ACTUVKITJRA



ACTUVKITJRLA



ACTUVLED



Ultraviolet Leak Detector Kits (High Intensity Light)

ACTUVDYEKIT. Kit includes high intensity light (ACTUVDYEKIT1), dye injector and cartridge with 25 applications, hose w/R134a coupler (ACTUVDYEKIT2), R12 adaptor (ACTUVDYEKIT4), 25 A/C service labels (ACTUVDYEKIT5), dye cleaner (CLEAN1SM), UV safety glasses (GLASS20BKY) and storage case (ACTUVDYEKIT6).

ACTUVDYEKIT1. High intensity 12VDC/50W compact light gets in tight spots. Light features a coiled cord that extends to 14 ft. with clips for attachment to battery.

ACTUVDYEKIT2. Hose with R134a coupler for ACTUVDYEKIT.

ACTUVDYEKIT3. Replacement injector handle for dye injector in ACTUVDYEKIT.

ACTUVDYEKIT4. R12 adaptor for ACTUVDYEKIT.

ACTUVDYEKIT5. Pack of 25 A/C service labels for ACTUVDYEKIT.

ACTUVDYEKIT6. Blow mold storage case for ACTUVDYEKIT.

ACTUVC25. 25 application dye cartridge with 25 A/C service labels.

CLEAN1SM. Dye cleaner for ACTUVDYEKIT.

GLASS20BKY. Black frame with amber lens.

ACTUVKITA



ACTUVLITEA



ACTUVGUNA



Ultraviolet Leak Detector Kits

The latest in air conditioning ultraviolet leak detection systems. Simply inject dye in low side port on automotive a/c system, circulate dye by operating the system and check for leaks with the UV Mini-Light. Can detect leaks as slow as 1/4 oz. per year. Combination of powerful 50 watt UV Mini-Light and UV enhancing glasses can detect leaks up to three feet away under any weather or wind condition. Mini-Light's "Instant-On" feature eliminates warm-up time. The ACTUV system can be used on commercial air conditioning, refrigerant trucks and train cars as well as passenger train and bus a/c systems. With the use of optional dyes, the ACTUV system can also check for leaks in engines, transmissions, hydraulic systems and power steering systems.

ACTUVKITA R12/R134a UV Leak Detection Kit Includes:

- ACTUVGUN3** Injection Gun
- ACTUVGUN5** R134a Injection Gun Adaptor
- ACTUVGUNA7** R12 Injection Gun Adaptor
- ACTUVGUNA8** Universal Dye Cartridge (8 oz.)
- ACTUVL121** UV Enhancing Glasses
- ACTUVLITEA8** 12V, 50 watt Light, UV Swivel Head Light
- ACTUVLITEA9** Plastic Case

ACTUVLITEA R12/R134a UV Leak Detection Light Kit Includes:

- ACTUVL121** UV Enhancing Glasses
- ACTUVLITEA8** 12V, 50 watt Light, UV Swivel Head Light
- ACTUVLITEA9** Plastic Case

ACTUVGUNA ACTUVGUN Injection Gun Kit Includes:

- ACTUVGUN3** Injection Gun
- ACTUVGUN5** R134a Injection Gun Adaptor
- ACTUVGUNA7** R12 Injection Gun
- ACTUVGUNA8** Universal Dye Cartridge (8 oz.)

Ultraviolet Light Kit (Cordless)

ACTUVL12. Kit includes 12V/50W cordless UV light (ACTUVL124), 12VDC battery (ACTUVL123), battery charger (ACTUVL122), UV glasses (ACTUVL121) and blow mold plastic storage case (ACTUVL127). Replacement bulb and lens is available for ACTUVL124 Light.

ACTUVL124. High intensity 12V/50W UV light features cordless convenience and portability. Powerful battery supplies power for 30 minutes of continuous use.

ACTUVL123. 12VDC battery for ACTUVL124 Cordless UV Light. Battery is nickel-cadmium and recharges in about 1 hour.

ACTUVL122. Battery charger for ACTUVL123 Battery in ACTUVL12 Kit. Charger requires 120VAC, 60 Hz input.

E41

▲ Read safety precautions on pages M1 to M4.

Ultraviolet Leak Detector Kits (LED Lite)

ACTUVQUADKT. Kit features ultra-bright 4 LED UV light with 12" flexible wand, rugged ergonomic grip and convenient ON/OFF button plus easy, one-turn per application mini dye injector. Kit includes flexible LED UV light, compact dye injector, A/C dye cartridges (10 applications), R134a connection hose, R12 Adaptor, 1 oz. of coolant dye, 1 oz. of oil/fuel/ATF dye, 10 A/C service Labels and UV Glasses (GLASS20BKY).

ACTUVMINI4. Bright LED technology light. Compact light with 12" flexible probe gets in tight spots. Comfort grip light handle with conveniently located ON/OFF button. Includes Flex Light and UV Safety Glasses.

ACTUVKITJRA. Kit includes cord free LED UV light with battery and charger, compact injection gun, R12 and R132a adaptors, four (4) disposable 1 oz. (30 ml) A/C dye cartridges, UV enhancing glasses, dye cleaner and service stickers in plastic storage case.

ACTUVKITJRLA. Kit is designed for those operators that already have a UV mini-light and UV enhancing glasses. Kit includes compact injection gun with R12 and R134a adaptors, four (4) universal dye cartridges and service stickers.

ACTUVLED. Kit includes rechargeable ultra-bright LED UV cord free swivel light (ACTUVLED8) plus rechargeable battery, battery charger and UV glasses.

ACTUVGUN100. Compact injection gun used in ACTUVKITJRA and ACTUVKITJRLA Kits.

ACTUVC10. 10 application dye cartridge with 10 A/C service labels.



ACTUVGUN3

ACTUVGUNA8



Ultraviolet Leak Detector Dye Cartridges/Accessories

- ACTUVLITEA8** 12V, 50 watt UV Swivel Head Mini Light
- ACTUVLITEA9** Plastic Storage Case
- ACTUVL121** UV glasses for ACTUVL12 Kit.
- ACTUVLITE6** Replacement Bulb for UV Mini-Light
- ACTUVLITEA10** Replacement Lens for ACTUVLITEA8 UV Light
- ACTUVGUN3** Injection Gun
- ACTUVGUN5** R134a Injection Gun Adaptor
- ACTUVGUNA7** R12 Injection Gun Adaptor
- ACTUVGUNA8** Universal Dye Cartridge (8 oz.)
- ACTUVGUNP1** PAG Oil Cartridges/46 Viscosity (six, 8 oz.)
- ACTUVGUNP2** PAG Oil Cartridges/100 Viscosity (six, 8 oz.)
- ACTUVGUNP3** PAG Oil Cartridges/125 Viscosity for GM (six, 8 oz.)
- ACTUVGUNP4** PAG Oil Cartridges/150 Viscosity (six, 8 oz.)
- ACTUVGUNE1** Ester Oil Cartridges/100 Viscosity (six, 8 oz.)
- ACTUVGUN2** Universal A/C Dye Cartridge (4 oz.)
- ACTUV10PAK** Universal Dye Cartridges (ten, 1/4 fl. oz.)
- YAUVC00L** Coolant Dye Cartridges. (six, 1 oz.)
- YAUV4N1** Engine/Transmission/Hydraulic/Power Steering Accessory Dye Cartridges. (six, 1 oz.)
- ACTUVKITJR1** A/C Dye Cartridges (six, 1/4 oz.)
- ACTUVKITJR2** A/C Dye Cartridges (six, 1 oz.)
- ACTUVKITJR3** Applicator hose used with ACTUVKITJR and ACTUVKITJRLA kits.

ACTUVL12



ACTUVL121 UV glasses for ACTUVL12 Kit.

ACTUVL127 Blow mold storage case for ACTUVL12 Kit.

ACTUVL125 Replacement bulb for ACTUVL124 Light.

ACTUVL126 Replacement lens for ACTUVL124 Light.

R134a and R12 Service Equipment Air Conditioning



ACTR5134



ACTR4151



ACT51234

Manifold Test Gauges (R134a)

ACTR5134 Manifold Gauge Set. Extra-large, 80mm gauge face and oversized sight glass for better visibility. Large, 1/4 turn open/close manifold ball valves. Anti-flutter gauges deliver true readings. Extra access port for vacuum line to enable system draw down. Manual HI and LO couplers for quick connections. 72" nylon barrier hoses meet EPA, SAE and UL standards. Includes 96" yellow charging hose.

ACTR4151 Manifold Gauge. Features manual couplers designed with a spring-loaded depressor to eliminate service valve damage. Extruded aluminum body with solid brass fittings. Hi-side and lo-side silicon anti-flutter gauges (65mm) reduce vibration when compressor is running. Sight glass permits visual monitoring of refrigerant flow. Piston-type free-floating valves keeps o-rings from rotating and leaking. Front wheel valves are designed for easy access and clearance when manifold is mounted on a flat surface. Includes 96" yellow charging hose.

ACTR4772-3 Hi-side Quick Coupler.

ACTR4772-2 Lo-side Quick Coupler.

Manifold Test Gauges (R134a / R12)

ACT51234 R134a/R12 Dual Refrigerant Manifold Test Gauge. Three sets of hoses (72" red and blue plus 96" yellow) permit true interchange between R12 and R134a refrigerants while providing extra reach for vans, pick-ups and SUV's. Large, 1/4 turn positive open/close manifold ball valves. Oversize sight glass for easy flow viewing. Extra large 80mm gauge face for better visibility. Anti-flutter gauges deliver true readings. Extra access port for vacuum line for system draw down. Manual HI and LO couplers for quick connections. Nylon barrier hoses meets EPA, SAE and UL standards.

ACT1234PKT

Manifold Service Kit

ACT1234PKT Manifold Replacement Kit. Includes various replacement lens, knobs, o-rings, gaskets and more. Kit components are used to service the following units: ACTR4151, ACT9500C, ACTR5134 and ACT51234.



Manifold Test Gauges (R12)

ACT9500C (R12) Manifold Gauge. Extruded aluminum body with 65mm gauges. Sight glass allows you to see refrigerant as it flows. Piston-type valve network keeps O-rings from rotating and eventually leaking. Color-coded valves. Built-in Schrader valves. Includes 96" yellow charging hose.



ACT9500C



ACTRB72



ACTRY96

Replacement Hoses (R134a)

Low-permeation hoses for internal equipment connections. 1/2" ACME fittings. Hoses comply with SAE J2197.

ACTRR72 Red hose, 6' length.

ACTRR96 Red hose, 8' length.

ACTRB72 Blue hose, 6' length.

ACTRB96 Blue hose, 8' length.

ACTRY72 Yellow Hose, 6' length.

ACTRY96 Yellow Hose, 8' length.



ACTR72A



ACTY6



ACTY96A

Replacement Hoses (R12)

6", 6', and 8' hoses include 1/4-turn manual shutoff valves and comply with SAE J2196. 3", 6', and 8' hoses also available with automatic shutoff valves.

ACTR6 Red, 6", 1/4 Turn Shut-off Valve
ACTR72 Red, 6', 1/4 Turn Shut-off Valve
ACTR96 Red, 8', 1/4 Turn Shut-off Valve
ACTR72A Red, 6', Automatic Shut-off Valve
ACTR96A Red, 8', Automatic Shut-off Valve

ACTB6 Blue, 6", 1/4 Turn Shut-off Valve
ACTB72 Blue, 6', 1/4 Turn Shut-off Valve
ACTB96 Blue, 8', 1/4 Turn Shut-off Valve
ACTB72A Blue, 6', Automatic Shut-off Valve
ACTB96A Blue, 8', Automatic Shut-off Valve

ACTY6 Yellow, 6", 1/4 Turn Shut-off Valve
ACTY72 Yellow, 6', 1/4 Turn Shut-off Valve
ACTY96 Yellow, 8', 1/4 Turn Shut-off Valve
ACTY72A Yellow, 6', Automatic Shut-off Valve
ACTY96A Yellow, 8', Automatic Shut-off Valve

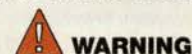
ACHOSEKIT



Hose Service Kit (R134a/R12)

6", 6', and 8' hoses include 1/4-turn manual shutoff valves and comply with SAE J2196. 3", 6', and 8' hoses also available with automatic shutoff valves.

ACHOSEKIT R134a and R12 Air-conditioning Hose Service Kit. Includes hoses, fittings, and other service parts for both R134a and R12 service ports, charging hoses, and field service couplers. Covers most domestic and import air-conditioning systems. Includes the following: 1/4" and 3/16" Gasket (10 each size), 1/4" and 3/16" Core Depressors (10 each size), Deep Valve Cores (2), 3/16" Red Seal Caps (3), 1/4" Blue Seal Caps (3), Can Tap Gaskets (2), Quick-Disconnect Gaskets (2), 14mm O-rings (4), R134a Caps (red), R134a Caps (blue) (2 each color).



WARNING
 • Wear safety shield (user and bystanders).
 • Read additional safety precautions on pages M1 to M4.

See Warranty Information on inside front cover.

Air Conditioning R134a and R12 Service Equipment

ACTR12344C

Vacuum Pumps (R134a/R12)

ACTR12344C. For use with R134a and R12 refrigerants. UL Listed and CSA Certified 1/3 hp motor. Off-set rotary van, compound stage pump combined with a high efficiency motor yields a small, lightweight unit that assures a deep vacuum pressure (50 microns or better) and rapid pumping speeds. Portable, 26 lb. unit has flexible coupling between pump and motor to provide positive drive and easy access to either pump or motor. Intake check valve prevents oil suckback. Operates on 120VAC, 60 Hz.

ACTRH12344C. Same as ACTR12344C except operates on 220VAC, 60 Hz.

ACTR12345C. For use with R134a and R12 refrigerants. Lightweight (12 lbs.) & easily portable. Two stage design allows lower pumping pressure resulting in a deeper ultimate vacuum. Internal check valve stops oil blowout in case of an accidental power loss. Gas ballast valve helps prevent oil contamination caused by high moisture. Center oil fill port is accessible from the front as well as sides. Durable lightweight die cast aluminum housing. Derlin vanes provide a quieter, longer lasting performance. Oil drain valve is positioned at the bottom of the oil reservoir to assure maximum drainage. UL Listed.

Specifications	ACTR12344C	ACTRH12344C	ACTR12345C
Free Air Capacity, CFM (L/ MIN.)	4.0 (144)	4.0 (144)	1.5 (42.4)
Oil Capacity	8 oz.	8 oz.	10 oz. (0.25 kg)
Pump Intake (Hose ID)	3/8" & 1/4"	3/8" & 1/4"	—
Pump Intake (Dual Thread)	3/8" & 1/4" Flare	3/8" & 1/4" Flare	—
Pump Intake (ACME Option)	1/2" ACME & 1/4" Flare	1/2" ACME & 1/4" Flare	—
Exhaust	1/2" NPT	1/2" NPT	1/2" NPT
Dimensions	13 3/4" L x 5 3/4" W x 9 3/4" H	13 3/4" L x 5 3/4" W x 9 3/4" H	5" x 12" x 9"
Electrical Requirements	120VAC, 60 Hz	—	—
Pump Motor, HP	—	—	1/6
Intake Port	—	—	1/4" SAE and 1/2" ACME
Pump Speed	—	—	3,450 RPM
Ultimate Vacuum	—	—	50 microns

Vacuum Pump (R12)

ACT28B Pneumatic Vacuum Pump. Removes impurities and moisture from air-conditioning systems during evacuations. Operates on 90 to 120 PSIG. Consumption is 42 SCFM; vacuum flow is 1/3 hp at 28". Air inlet thread is 1/4"-18 NPT; vacuum inlet is 7/16"-20 UNC.

ACT28B

ACT413A

Can Tapper Valve

ACT413A Can Tapper Valve. Fits R134a (2.88"), R12 (2.50") and Oil (2.00") U.S. Standard charge cans. Includes 1/2" ACME-M and 1/4" FL-M ports. Internal safety check valve prevents system backflow. Composite construction with brass ports. Locking handle provides constant pressure. Includes insert for smaller cans.

Oil Injector (R134a)

ACTR82375 Oil Injector. Use to add refrigerant oil or large amounts of UV leak detection dyes to the a/c system. Quickly adaptable to manifold gauge sets or charging equipment. Add oil by allowing vacuum to pull it in after the evacuation process or use refrigerant to push it during the recharge process. Two ounce capacity. R134a use only. 1/2" ACME Male x 13mm R134a Low Side Female threads.

ACT2105

ACT1297

ACTR900

ACTR700B

Valve Core Tools (R134a/R12)

ACT1297 R134a/R12 Master Valve Core Tool Set.

Unique design offers a locking device that holds the shaft in place when removing or installing the valve core. Makes removal and installation of Schrader valve cores possible on fully charged systems. Set includes: • High side GM/Ford R12 Adaptor (1/4" x 3/16"), • High side Ford R12 Adaptor (1/4" x 1/8"), • GM large bore valve core remover/installer assembly, • JRA R134a valve core remover/installer assembly, • Eton R134a Low side valve core remover/installer assembly, • Eton R134a High side valve core remover/installer assembly, • Valve assembly enables changes under pressure, • R134a High side Connector (16mm), • R134a Low side Connector (13mm), • 1/4" FL Swivel Connector, • Plastic box for set component storage.

ACT2105 Orifice Tube Service Kit. Use to install and remove any style orifice tube. Can also be used to remove broken screens and tubes. Kit includes auger point shaft, GM puller, brass extension, puller, remover arbor, remover nut and molded plastic case for storage.

Sealant Detection Kit

ACT700 A/C Sealant Detection Kit. Determines if an aftermarket A/C sealant is present. Avoid potential damage to A/C diagnostic equipment, A/C system components or contamination of another vehicle. Works with both R12 and R134a refrigerants. Detects A/C sealants prior to recovering refrigerant. Protects recovery equipment from damage. Maintains warranties on recovery/recycling machines and compressors. Includes ten sensing plugs, R134a and R12 test connectors, syringe assembly, flow meter hanger, four feet of tubing, instruction manual and storage case.

Retrofit Kits

ACTR900 Retrofit Tool Kit. Includes the basic tools needed to service automotive refrigerant systems converted from R12 to R134a in a plastic carrying case. Components:

ACTR70010A	Four Way R12 Charge Port Tool
ACTR70011A	GM Posi-Seal Charge Port Adaptor
ACTR70012A	R134a Low Side Socket
ACTR70013	R134a High Side Socket.
ACTR70015	Dual Valve Core Tool.

ACTR700B R134a/R12 Retrofit Kit. Contains needed tools and consumable fittings to do R134a and R12 retrofits on most domestic and some import vehicles. Includes the following: standard and deep valve cores, GMR-12 Posi-Seal socket, low and high-side 3/8" drive sockets, termination caps, R134a low and high side straight adaptors, and port cleaning wire brush. All components come in a plastic case.

ACT700

ACT700 Specifications

Refrigerant Types	R12 and R134a
Maximum Pressure	250 PSIG (1722 kPa)
Maximum Temperature	200°F (93.3°C)

R134a and R12 Service Equipment



ACT120A

ACT121A



Electronic Refrigerant Scale

ACT120A Electronic Refrigerant Scale. Use with R12 or R134a refrigerants. Reads amount of refrigerant transferred from tanks during charging or recovery operations. Completely portable to permit charging in the service bay or in the field. Reads in pounds or kilograms. Features include programmable charge quantities and tank capacities, large liquid crystal display, repeat function, independent control box with stand and audible alarm when reaching charge amount. Auto-off function after 3 hours. Includes plastic storage case.

ACT121A Remote Charging Module. Interfaces with the ACT120A Electronic Refrigerant Scale for automatic, programmable charging. Use with R12 and R134a systems. Self-contained and portable. Color-coded tactile keypad. Includes interface cable for ACT120A.

Specifications	ACT120A	ACT121A
Capacity, lbs. (kgs.)	240 (110 Kg)	—
Accuracy	±.16 oz. (±0.01 Kg) or 0.1% of reading (whichever is greater)	—
Resolution	0.01 lb. (0.01 Kg)	—
Operating Temperature	32°F to 120°F (0°C to 49°C)	32°F to 120°F
Battery Life	Approx. 40 hrs.	60 hrs. in continuous use
Platform	9" (228.6mm) square	—
Power Supply	9-volt battery (included)	"AA" Batteries (4 required)

TEMP2A



TEMP3A



Thermometers

TEMP2A Digital Thermometer. Take accurate temperature readings on air conditioning systems, cooling systems and other applications. Reads temperature of liquids, solids and gases. Smooth membrane surface seals out moisture, dirt, oil and grease. Easily wipes clean. Easy-to-read display in F° and C°. Magnet on thermometer cover holds unit in place in tool storage unit. Tip cover protects pocket and protects probe during storage. EU/CE - UK.

TEMP3A Dual Sensors Digital Thermometer. Can be used to view center vent air temperature from under hood by placing external sensor in center vent. View A/C temperature while driving and set A/C under load by placing external sensor in vent. Compare outside temperature with A/C discharge temperature as well.

- Built-in Internal Sensor
- MIN/MAX Memory for both sensors
- Uses standard AAA battery
- EU/CE - UK
- Large, back-lit Display with Clock feature
- External Sensor with 10-foot extension wire

R12 Seal and Clutch Service

Choose from these basic seal and clutch service sets covering all popular compressors.

ACT1269A GM Seal Service Set. For compressor models A6 and R4.

ACT1270A GM Seal Service Set. For compressor models DA6, HR6, V5, and 6 pole R4. Use with ACT1269A.

ACT1271A Ford/Chrysler/Nipponenso Seal Service Set. For compressor models FS6, C171, 6P148A, and Tecumseh HR980. Use with ACT1269A.

ACT1300A Air Conditioning Clutch Remover Set. Simplifies the removal/installation of A/C compressor clutch and clutch plates and provides access to shaft seals. For use with Ford, Chrysler, and GM A/C compressors. Includes plastic carrying case.

See Warranty Information on inside front cover.

ACT1269A



ACT1271A



ACT1300A



ACT1270A



WARNING

- Wear safety shield (user and bystanders).
- Read additional safety precautions on pages M1 to M4.

Hydraulic A/C Hose Crimping Tools

ACT2100



ACT2100 A/C Hose

Hydraulic Crimping Tool Set. Use set components to recrimp or install most barbed and beaded fittings on A/C hoses. Allows user to create standard or custom length A/C hoses using recommended manufacturers hoses and fittings. Set contains the hand-operated hydraulic crimping tool (ACT21001), four sets of dies for standard fittings and four sets dies for reduced barrier fittings. Includes plastic storage case.

ACT21001 Crimping Tool. Hand-operated hydraulic A/C hose crimper used to recrimp or install new fittings on A/C hoses.

ACT21009 Plastic Case.

Stock No.	Description	Fitting Size	Hose Size
ACT21002	Standard/Reduced Barrier Die Set	#6 (Standard), #8 (Reduced Barrier)	5/16" (Standard), 13/32" (Reduced Barrier)
ACT21003	Standard Die Set	#8	13/32"
ACT21004	Standard Die Set	#10	1/2"
ACT21005	Standard Die Set	#12	5/8"
ACT21006	Reduced Barrier Die Set	#6	5/16"
ACT21007	Reduced Barrier Die Set	#10	1/2"
ACT21008	Reduced Barrier Die Set	#12	5/8"

ACT73



ACT83



ACT2030



Specifications	TEMP2A	TEMP3A
Temperature Range	-58° to 300°F (-50 to 150°C)	-58° to 158°F (-50 to 70°C)
Resolution	± 0.1°F (± 0.1°C)	±.1°F (±.1°C)
Accuracy	± 2.0°F (± 1.0°C)	± 1.8°F (± 1.0°C)
Response Time	Updates every 1.5 seconds	Updates every 1.5 seconds
Battery	MTACDC1-1	AAA

ACT73 Dial-Type Thermometer. Range 0°F to 220°F in 2° increments. Checks temperature of condenser, outside air, and cooling power.

ACT83 Dial-Type Pocket Thermometer. Range 0°F to 220°F in 2° increments. Plastic protective case. Stem should be immersed about 2" in liquids, 4" in gases.

ACT2030 A/C Temperature Tester. Quickly and easily determine A/C system performance. A microprocessor compares temperature at the A/C vent and outside ambient temperature to determine acceptable systems performance. Reads Fahrenheit or Celsius. Automatic shut-off. Includes diagnostic chart and tech tips. Powered by 9V battery (included). Temperature Range: 32°-120°F (0°- 48° C).

R12 Service Tools

Air Conditioning R12 Service Tools



Adaptors/Valves/Connectors

ACT332A Anit-Blow Back Refrigerant Check Valve. Shuts off gauge pressure when disconnecting from the system.

ACT401 90° Lo-Side Adaptor. 90°. 7/16"-20M x 7/16"-20F. For all vehicles with standard fittings.

ACT403 Hi-Side Straight Adaptor. 7/16"-20M x 3/8"-24F. For use on GM 1976 and later and Ford 1981 and later. 5" long.

ACT404 Hi-Side Flex Adaptor. 7/16"-20M x 3/8"-24F. For use on GM 1976 and later and Ford 1981 and later.

ACT405 Hi-Side Flex Adaptor. For use on Ford 1977 to 1980 vehicles.

ACT409 90° Manual Shutoff Valve. 90°. 7/16"-20M x 7/16"-20F. Permits positive shutoff of refrigerant flow. Complies with SAE J1989.

ACT415 90° Manual Shutoff Valve. 90°. 7/16"-20M x 7/16"-20F. Color-coded blue.

ACT416 90° Manual Shutoff Valve. 90°. 7/16"-20M x 7/16"-20F. Color-coded yellow.

ACT106B Expansion Tube Remover. For most GM models. 4" long.

ACT1009A Orifice Tube Remover. Use as CCOT and FFOT screen extractor. Use in conjunction with ACT106B.

ACT1008A Orifice Tube Tool. Services air-conditioning systems. 6 1/4" long.

ACT1107A Quick-Disconnect Fitting Adaptor. Similar to ACT110A. Connects to a deeper Schrader valve on Sanden, Nippondenso, and GM R-4 compressors. Also used on late-model Ford and GM systems.

ACT119 Quick-Disconnect Set. Simplifies connecting to core valve service fittings. Includes both a straight coupler and a 90° coupler that accept either of two adaptors (one for low side, one for high side).

ACT134 Straight Service Port Adaptor. For 1976 and later cars. For gauge set or service hose connection. 7/16"-20M x 3/8"-24F.

ACT414 Access Service Port Thread Restorer. Use to clean and restore threads on all access fittings. Sizes include 1/8F/L, 3/16F/L, and 1/4F/L.

ACT1000A Clutch Plate Remover.

Use ACT1052A to install/replace clutch plate.

ACT1052A Clutch Plate Installer. Use ACT1000A to remove clutch plate.

ACT600A Adaptor Set (7 pcs). Includes adaptors for connecting automotive air-conditioning systems. Allows access for testing and recharging. Neatly displayed in a AT600A1 Plastic Box. Set includes the following seven adaptors:

ACT600A1 Plastic Box.

ACT107B Hi-Port Side Adaptor. For late-model Fords with the new thread on the Hi-Port side. 1 3/8" long. 7/16"-20M x 5/16"-24F.

ACT110A Quick-Disconnect Fitting. Attaches to high-side compressor fitting on 1970 to 1980 Ford products. Made of brass.

ACT1185A 90° Quick Coupler/Adaptor. 90°. Connects to deeper Schrader valve on some 1986 to 1987 GM cars. Will also service 1984 Fiero. For 3/8"-24 high-side service ports.

ACT406 Shutoff Valve Adaptor. 7/16"-20M x 7/16"-20F. Converts standard shutoff valve to automatic shutoff.

ACT408 Hi-Side Adaptor. 3/8"-24F. Adaptor has an extra-long valve depressor for use on 1991 and later GM.

ACT402 90° Hi-Side Adaptor. 7/16"-20M x 3/8"-24F. For use on GM 1976 and later and Ford 1981 and later.

ACT410 Shutoff Valve Adaptor. 1/4" and 3/16". Converts standard shutoff valve to automatic shutoff.

R12 Service Tools Air Conditioning



Service Tools

ACT1046C Flush Kit. Provides pressure flushing of condensers, evaporators, and refrigerant lines after the air-conditioning system is completely discharged. Designed to work with any lightweight flushing material that can be mixed with pressurized air. Includes flush gun, hose, canister, and canister adaptor.

ACT111B Compressor Oil Injector Adaptor. Has an aluminum body and holds up to 2 oz. of oil. Uses pressure differential of the high and low side of air-conditioning system.

ACT118B Spring Lock Coupler Set. Four-piece set aids in disconnecting refrigerant line couplings on many 1981 and later Ford air-conditioning systems. Color coded: red, 3/8"; blue, 1/2"; black, 5/8"; and beige, 3/4".

TR109 Valve Core Tool. Use to remove or replace valve cores on air-conditioning systems (large bore). 6 3/4" long.

ACT1290A Universal Valve Core Service Tool. Removes and replaces standard-size Schrader-style valve cores plus the larger size found in GM systems.

ACT499A Adjustable Spanner Wrench. Adjustable three-stud design for GM R-4 compressors. Also has applications on some GM, Warner, Pitts, and Ogura clutches.

R404 Refrigerant Ratcheting Box Wrench. Four popular square sizes: 3/16", 1/4", 5/16", and 3/8". Quick ratcheting action with reverse levers at both ends.

RF818SA Refrigerant Ratcheting Box Wrench. 9/16", 6-point for servicing compressor valve caps on one end; 1/4" female square on other end for vehicles without Schrader valves.

PR21A Internal Retaining Ring Pliers. Features .038" straight tip. 5 7/16" long.

PRA26 External Snap Ring Pliers. For clutch and front pulley service. 9 1/2" long.

TLE80A Compressor Head Bolt Socket. Service Size E8 TORX® fasteners on many compressors. 1/4" drive.

TLE60A Compressor Head Bolt Socket. Service Size E6 TORX® fasteners on 1977 and later Eaton and York compressors. 1/4" drive.

ACT407 Fin Straightener and Cleaner. Multi-head tool handles 8, 9, 10, 12, 14, and 15 fins per inch. 4 1/4" long.

CT4G Circuit Tester. For 6 and 12V systems. Makes tests with engine off. 6' lead protected by strain relief.

GOGGLE1 Safety Goggles. Features a durable molded frame with a soft and flexible elastomer that seals comfortably for a custom fit around nose, cheeks, and forehead. Quick adjust headband clips permit fast and easy fitting. Indirect ventilation system channels and directs airflow over the lens, which minimizes fogging and improves vision potential while providing superior splash and impact protection. Has Uvex 4C™ lens coating that protects against fogging, scratches, and ultraviolet rays. Meets ANSI Z87.1-1989.

ACT1370 Disconnect Set. Set includes six tools for disconnecting spring couplings on fuel lines. Convenient plastic holder included. Also useful on air-conditioning spring couplings as well as push lock connectors on radiator and transmission lines. Includes six tools for disconnecting spring couplings on Ford, GM, and Chrysler air-conditioning lines. Also works on fuel lines and can be used as push lock connectors on radiator and transmission lines.

ACT1295A Valve Core Remove/Install Tool. Use to remove or replace valve cores on R12 air conditioning systems. Calculate superheat accurately by reading refrigerant temperature and pressure from the same location on the system. Includes 1/4" x 3/16" adaptor. Sturdy ball design controls refrigerant flow with 1/4 turn of valve lever.



SS444D

Air-Conditioning Sales and Training Materials

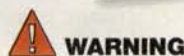
ACT279C Service Manual. Complete instructions for charging, purging, and servicing air-conditioning systems (both R12 and R134a).

SS444D Air-Conditioning Merchandising Banner. Made of durable, weather-resistant plastic. Measures 82" x 34". Features reinforced corners and double stitching along the edges. Includes 60" ropes at corners. Air-conditioning service.

See Warranty Information on inside front cover.



ACT279C



WARNING

- Wear safety shield.
- Frequently inspect, clean, and lubricate ratchet mechanism with light oil.
- Read additional safety precautions on pages M1 to M4.



Lubrication Oil Filter



Filter Pliers / Pan Plug Wrenches

YA4050B Oil Filter Pliers. Easily grips slippery oil filters for easier removal. Jaws are offset 20° from handle to increase accessibility to oil filters. Jaw opening range of 2 1/4" to 4". 12" long.

YA4275 Oil Filter Pliers. Use on filters from 4 1/4" to 7" (547-177mm) diameters. Applications include truck, tractor and high torque diesel engines. Spring action size adjustment assures a solid grip on filter. Offset handle offers increased accessibility. Heavy duty forged levers. Cushioned grips for comfort. Overall length of 19" (482.6mm).



YA4250 Oil Filter Pliers. Slip-joint design provides jaw opening range of 3 5/8" to 6". 12" long.

S9615A Oil Drain Plug Wrench. 9/16" and 15mm 12-point box ends fit most popular GM drain plugs. 10° offset at each end for maximum clearance. Both box ends feature Snap-on® Flank Drive® wrenching system.



Oil Filter Wrenches

	Size	Steps	Flats	Style	Size, inches	Application/Description
YA995	3"	2	15	Cup	3/8	Fram, AC, Wicks, NAPA, Sears, Motorcraft, Hastings, and Baldwin filters. Has 1" external hex.
YA996	76/80mm	2	14/15	Cup	3/8	OEM and Purolator filters on VW, Nissan, and Toyota. Has 1" external hex.
A91D	—	—	—	Strap	—	Large-diameter oil filters 1 to 6". Includes both 3/8" and 1/2" square drives.
A91D2	—	—	—	—	—	Replacement strap for A91C Strap Wrench.
A91DRK	—	—	—	—	—	Strap Wrench Repair Kit.
YA828	—	—	—	Band	1/2	2 positions for 2 7/8 to 3 3/8" diameter and 3 3/8 to 3 7/8" diameter filters.
YA342B	—	—	—	Band	1/2	For 4 5/8 to 5 1/4" diameter filters.
KD2320	—	—	—	Band	1/2	For 4 1/8 to 4 21/32" (105 to 118mm) oil filters.
KD2322	—	—	—	Band	1/2	For 5 5/32 to 5 21/32" (130 to 143mm) oil filters. Similar to KD2320.
GA333B	—	—	—	Band	Handles	For 2 7/8 to 3 1/4" diameter oil filters.
GA340	—	—	—	Band	Handles	For 3 1/2 to 3 7/8" diameter oil filters. Similar to GA333B above.
YA341	—	—	—	Band	Handles	For 4 1/8 to 4 7/16" diameter oil filters. Similar to GA333B above.
FWA6296	62/96mm	—	—	Adjustable	3/8	Adjustable filter wrench for 62 to 96mm diameter oil filters. 3/8" square drive, 3/4" external hex.
FWA62121	62/121mm	—	—	Adjustable	3/8	Adjustable filter wrench for 62 to 121mm diameter oil filters. 3/8" square drive, 3/4" external hex.
FW656714	65/67mm	2	14	Cup	3/8	Fram-PH4386, PH4967, PH6017, PH6018, and PH6607.
FW7614	75mm	1	14	Cup	3/8	Champion, Champ, Lee, Purolator, Mopar, VW, Porsche, BMW, Mercedes.
FW9315	93mm	1	15	Cup	3/8	Casite, Champ, Champion, GM, Fram, Hastings, Purolator, Wix, Nissan, VW, Porsche, Renault.

CRUSH1A



Oil Filter Crushers

CRUSH1A Oil Filter Crusher. Removes approximately 95% of excess oil from spent filters. Features self-lubricating seal. 10,000 lbs. of crushing force with simple hook-up to 60 to 120 PSI air line. 10 to 15 second time cycle. Pivoting door prevents oil from dripping into work area when loading or unloading filters. Won't operate when door is open. Crushing chamber is 8 1/2" H x 6" square. Height is 23". Weight is 70 lb.

CRUSH1EX100 Replacement air filter.

CRUSH1ST1000 (Optional) Floor Stand.

CRUSH2 Heavy-Duty Truck Oil Filter Crusher. Same quality features as CRUSH1A but has increased crushing force of 37,000 lbs. and chamber size of 13 1/2" H x 9 3/4" square. Operates on 100 to 125 PSI pressure. Crush filters to 1/5 to 1/4 original height. Footprint size is 27" x 30" and height is 74 1/2". Weight is 640 lb. Fully assembled.

Drains

YA777 Waste Oil Drain. Features a "contained" system to remove waste oils/engine fluids from the vehicle to the recycling center. Uses ordinary shop air. Rugged steel construction, 20 gallon capacity. Preset, nonadjustable regulator prevents overpressurization. Preset safety pop-off valve and sight gauge help prevent overfilling. Equipped with easy-rolling wheels and casters. Minimum height is 48"; raises to 76" (28" of adjustment). 14" diameter x 5" deep bowl.

YA743 Waste Oil Drain. Fits standard 16 gallon drum. Includes float gauge in drum cover, telescopic drain bowl adjustable from 42 3/4" to 70", and roll-around base. Drum not included.

YA749 Drain. 24 1/2" diameter. Fits 6" or larger drain bowls. Prevents spillage when removing transmission pans.



Funnels / Spouts / Pans

P2 Drain Pan. Black. Two gallon capacity. High-density polyethylene is resistant to chemicals and solvents. Molded handles and 45° spout permit easy handling and pouring. 5" H x 15" W x 22" L.

P3 Drain Pan. Black. Similar to P2 but with a 3 3/4 gallon capacity. 7" H x 21" W x 27" L.

P45 Drain Pan. Black. Similar to P2 but with a 4 1/2 gallon capacity. 7" H x 18" W x 24" L.

P47 Drain Pan. Green version of P45. It makes the P47 easy to identify to prevent mixing. 4 1/2 gallon capacity. 7" H x 18" W x 24" L.

P9 Oil Drain Pan. 14 1/2 gallon capacity. Complete with pour spout and handy roller wheel. Four hand grips for carrying. 9 1/2" high, 26" wide, 36" long.

FUNN1 Funnel. 1 pint capacity. High visibility orange funnel for small neck fillers. Both ends of the funnel have screw on caps to contain fluid if needed.

FUNN2 Funnel. High visibility blue funnel for small neck fillers. Both ends of the funnel have screw on caps to contain fluids if needed. 1.25 quart capacity.

FUNN3 Funnel. High visibility green funnel for large neck fillers. Both ends of the funnel have screw on caps to contain fluids if needed. 1.5 quart capacity.

FUNN15 Funnel. High visibility red funnel for large neck fillers. Both ends of the funnel have screw on caps to contain fluids if needed. 1.5 quart capacity.

GA96A Funnel. 8 1/2" oval funnel with filter screen. 30" long.

Oilers

OC5A Oiler. 5 1/2" small-pressure oiler has a long, tapered spout with a screw-on tip. 1 7/8" OD. Includes base holder. 5 oz. capacity.

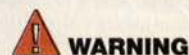
OCF5 Flexible Spout Oiler. Similar to OC5A Oiler except it has a flexible spout.

OC16A Oiler. Delivers a single drop or a continuous stream of oil. OD at top is 2", at bottom is 3". 1 pint capacity.



Drum Plug

A172A Drum Plug Socket. One socket removes virtually all screw-in drum plugs or caps large or small. Spring loaded inner wrench handles smaller plugs and recesses automatically when removing large plugs. Use with a 1/2" drive ratchet or impact wrench.



WARNING

• Read additional safety precautions on pages M1 to M4.



Lubrication Grease and Oil

YA732A



YA734A



YA728A



GA471



YA733A



GA472



GA473A



YA4190



Manual Grease Guns

YA732A Grease Gun. Lever-operated unit develops 6,000 PSI maximum pressure. Features air bleed and bulk filler valves for cartridge or bulk loading. Precision steel plunger prevents bypassing of lubricant. Special spring-loaded follower provides vacuum-tight fit. Toggle stops prevent binding of plunger. Includes 12" flexible hose and 6" rigid extension. Made in the USA.

YA734A Pistol Grip Grease Gun. Develops 6000 PSI maximum pressure. Pistol-grip unit features suction, cartridge, or filler pump loading. Includes filler nipple, flip over follower, 18" flexible hose, 6" rigid extension and hydraulic coupler.

YA733A Pistol Grip Grease Gun. Develops 6000 PSI maximum pressure. Features suction and filler valves for cartridge/filler pump loading plus air bleed and bulk filler valves for cartridge or bulk loading. Two-position handle offers high/low volume or pressure control. Includes filler nipple, flip over follower, 12" flexible hose, 6" rigid extension, and hydraulic coupler. Made in the USA.

YA728A Lever-Operated Grease Gun. Lever-operated, large-capacity gun accepts 16 oz. bulk or 14 1/4 oz. cartridge grease. Develops 6000 PSI. Includes tough, 18" flexible whip hose with coupler and 6" rigid extension.

GA471 Pistol Grip Grease Gun. 3 oz. capacity, 8 1/4" nozzle.

GA472 Pistol Grip Grease Gun. 14 oz. capacity, 13 1/4" nozzle.

GA473A Pistol Grip Grease Gun. 14 oz. capacity, 19 1/4" nozzle.

YA4190 Grease Gun. Fits all flush-type fittings. Good for FAR72B Air Ratchet, and all lubricating flush-type fittings such as those used on FAR70 Series Air Ratchets. Spring return plunger. 3 oz. capacity.

YA4190DIS Grease Dispenser Attachment. For YA4190. Contains 3 oz. of Mobil Temp SHC-32 grease for Snap-on® FAR Series Air Ratchets.



YA773

Electric Grease Guns

YA773 Rechargeable Grease Gun Set. 12-volt rechargeable grease gun brings power and portability to on-site lubrication requirements. Ideal for use in construction, industrial, agricultural and auto/fleet applications where portable lubrication systems are a must. Quickly and easily delivers a continuous flow of grease at up to 6,000 psi. Flow rate is 3 oz. per minute. 14 oz reservoir accepts suction, cartridge or bulk reloading. Includes YA773GUN, YA77324 Whip Hose (24"), 12-volt battery, battery charger and YA773PB Storage Case. 18", 30" and 36" whip hoses are available as optional items.

Whip Hoses Attach to YA773GUN with 7/16" UNEF fitting. Working end has 1/8" NPT fitting. Working pressure of 7500 PSI.

YA77318 High Pressure Whip Hose. 18" long.

YA77324 High Pressure Whip Hose. 24" long.

YA77330 High Pressure Whip Hose. 30" long.

YA77336 High Pressure Whip Hose. 36" long.



YA775

YA771A



YA772



YA746



YA745A



Oil Spray and Suction Guns

YA746 Oil Spray Gun. Siphon Type. Use for spraying lubricating oils, cutting oils, and cooling oils. Includes 6' vinyl suction hose with strainer.

YA745A Oil Spray Gun. 16 oz. capacity. Fast, clean method for removing or adding transmission and gear oil. Special follower is impervious to oil, grease, and water. Flexible nozzle.

UFREE1



Air-Powered Grease Guns

YA775 Heavy-Duty Air-Operated Grease Gun. Delivers 6000 PSI grease pressure at 100 PSI air input. Pumps at a 60:1 ratio. Includes rigid 7 1/2" extension and coupler and has a 500cc capacity barrel. Versatile 3-way loading: bulk, filler pump, or with 14 oz. cartridge. Has a tough, cast iron pump head and a positive-grip follower rod handle.

YA772 Air-Operated Grease Gun. Automatic operation gives continuous grease flow with trigger depressed. Pumps at a 40:1 ratio. Air operating range of 60 to 150 PSI. A locking follower rod simplifies loading and priming.

YA771A Air-Operated Grease Gun. An air supply of 35 to 80 PSI is adequate for most uses. Angle design reduces load distance. Grease loading by 14 oz. cartridge or suction filling. Handle has opening for 1/8" pipe fitting for connection to air supply. 16" long unit. 18" flexible hose.

Grease Fitting Rejuvenator

UFREE1 Grease Fitting Cleaning Tool. Quickly and easily frees up joints and fittings for proper greasing and lubrication. Works simply by injecting a light viscosity oil into the grease joint via the grease fitting to break up and remove dirt, rust and debris. Pump in grease after freeing up the joint. Includes injection cleaning tool, 4 3/4" (120.7mm) long flexible hose to access tight places and wooden storage case with transparent top.

Dispensing Accessories

YA7500 Grease-Dispensing Accessory Pack. Includes YA760 thru YA757 (10 pcs) as follows in a plastic tray:

YA760 Universal Swivel. High-pressure swivel. 1/2"-27 male x 1/4" NPT(m) threads. 5000 PSI maximum working pressure.

YA761 Needle Nozzle Coupler. This is the YA750 with a locking sleeve adaptor for quick attachment to a hydraulic coupler.

YA751 Flex Whip Hose. For powered and hand-operated grease guns. 1/8" NPT(m) both ends. 4500 maximum PSI. 12" long.

YA752 Flex Whip Hose. 18" long version of YA751.

YA758 Flex Whip Hose. For hand-operated grease guns only. 1/8" NPT(m) both ends. 18" long.

YA753 Heavy-Duty Coupler. 1/8" NPT(f) thread.

YA755 Coupler. 1/8" NPT(f) thread. Fits all hydraulic-type grease fittings.

YA756 Extension Coupler. Lubricates recessed fittings. Locking sleeve adaptor allows quick attachment to hydraulic coupler of any control valve or lever gun. 6" long.

YA754 Swivel Coupler. 1/8" NPT(f) thread. Swivels a full 360°. The swivel locks in position every 45°.

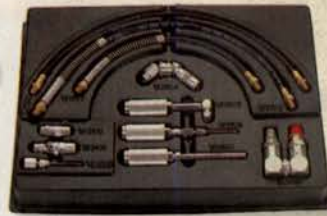
YA757 Angle Lube Adaptor. 90° head allows fast and complete lubrication of steering and suspension systems on late-model front wheel drive vehicles. 4 1/2" long.

YA799 Right Angle Grease Gun Adaptor. Use on Chrysler, Dodge and Plymouth FWD ball joints and other restricted access locations. Attached to any standard grease gun. Metal construction with industrial black finish. Measures 1 1/2" x 1" x 3/4".

YA799



YA7500



YA747



YA750 Needle Nozzle. 1/8" NPT(f.) thread. 2 3/4" long.

YA747 Grease Control Valve. 1/4" NPT(f) inlet, 7500 PSI maximum working pressure. Includes 6" extension tube and YA753 Coupler.

YA801 Needle-Type Adaptor. For universal joint fittings, water pumps, and metal-covered springs. 4 7/8" long.

GA472-1 Straight Pipe. Flat surface on end for easier turning with wrench. 5 1/2" long.

GA472-2 Grease-Fitting Coupler. Push-on design with neoprene nipple and ball. Features spring check valve.

GA472-9 Flexible Polybraid Hose. Oil, grease, and solvent resistant with brass end fittings. 14" long.

YA802 Push-Type Adaptor. Provides access to universal joints and bearings where necessary lateral movement for release of couplers is impossible. 5 1/4" long.

YA803 Flexible Adaptor. Has pressure lock hydraulic coupler. 6000 PSI working pressure, 12,000 PSI burst pressure. 16" long.

Bearing Packers

A180A Manual Bearing Packer. Simultaneously pressure packs inner and outer wheel bearings 3/4" minimum ID and 4" maximum OD. Use with pressurized lube equipment or hand grease gun. Includes dust cover.

YA470B Manual Bearing Packer. Packs 50 to 65 bearings with one grease filling. Apply manual pressure to flush and pack bearing with grease. Includes dust cover. 4 1/2" high.

YA742 Professional Bearing Packer. Unit features large packer head. Handles bearings to 9 1/2" OD and minimum 9/16" ID. Includes adaptor to service smaller bearings of 1" to 1 3/4" OD.

A180A



YA470B



YA739



YA736



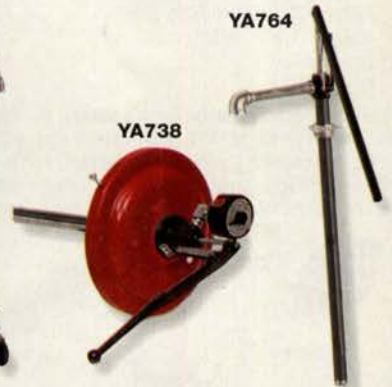
YA737



YA759



YA764



YA738

Grease and Gear Oil Pumps / Manual

YA739 Manual Gear Oil Pump. Fits any 25 lb. to 50 lb. original refinery container. Delivers 1 oz. per stroke using SAE 90 gear oil at 70°F. Includes 5' of 1/2" low-pressure hose with dispensing nozzle.

YA736 Air Operated Grease Pump. Fits any 20 lb. to 50 lb. original refinery container. Powerful 50:1 ratio pump utilizes 20-cu. in. displacement. Includes 6' of 1/4" high-pressure hose, quick-connect air coupler, follower plate, YA747 Grease Control Valve, and YA760 Universal Swivel.

YA737 Manual Operating Grease Pump. Clamps securely to any 25 lb. to 50 lb. original refinery container. Ideal for light and medium grease—delivers .303 oz. of #1 multipurpose grease per stroke. Lever-action pump handle develops 2500 PSI. Includes 5' of 3/8" medium pressure hose with follower plate and YA755 Coupler.

YA759 Air-Powered Grease Pump. 50:1 ratio pump. Uses 120 lb. container-size and handles all grades of lubricant. Features internal muffler for quiet operation and a pre-lubricated air motor requiring no external oiler. Has exclusive micro-lapped hardened steel air valve and seat to assure a long and productive service life—no packings to wear out. Shovel-type foot valve adds mechanical priming to normal suction. Casters offer unit mobility. Does not include barrel.

YA738 Manual Gear Oil Pump. Fits any 120 lb. original refinery container. Meter registers in 1/4 pint increments. Delivers 1 pint per 7 strokes using SAE 90 gear oil at 70°F. Includes roll-around base and 5' of 1/2" low-pressure hose with dispensing nozzle.

YA764 Transfer Pump. Dispenses oil, kerosene, diesel fuel, and light oil quickly from 55-gallon original containers. Includes 2" NPT bung bushing. Delivers 5 oz. per stroke using a #1 cup.



WARNING

• Read additional safety precautions on pages M1 to M4.



See Warranty Information on inside front cover.

E50

Lubrication Grease and Oil

YA762



Dolly

YA762 Band Dolly. Provides mobility for 25 lb. to 50 lb. original refinery containers. Includes jam swivel casters and screw clamp for secure adjustment.



PBT5X29

PBT2120



Transmission Table

PBT5X29 Transmission Table. 5' long.
PBT2120 Drawer. Optional drawer. 20" x 20" x 5".

Engine Service Service Tools

MT37A



Oil Pressure

MT37A Oil Pressure Gauge Set. Use on diesel and gasoline engines. Includes standard and metric adapters for most popular domestic and import cars, trucks, tractors and stationary engines. Features bright, easy-to-read gauge with green protective boot. Includes plastic storage case. Includes:

- | | |
|---------------------------------------|------------------------------|
| 0-100 PSI (0-700 kPa) Gauge Assembly. | Hose Assembly. |
| Adaptor (1/8-27 to 1/4-18). | Adaptor (1/8-27 to 3/8-18). |
| Adaptor (1/8-27 to 1/8-28 BSPT). | Adaptor (1/8-27 to M10-1.0). |
| Adaptor (1/8-27 to M12-1.5). | Adaptor (1/8-27 to M14-1.5). |
| Street Elbow. | 2" Large Nipple. |
| Coupling. | |

A118 Oil Pressure Sender Switch Socket. For 1986 and earlier Ford, GM, and Chrysler products. 1", 6-point wrench size. 3/8" drive. Length is 1 3/4".

A121 Oil Pressure Sender Switch Socket. For 1987 and later Ford, GM, and Chrysler products. Same design as A118 above but longer. 1 3/16", 12-point wrench size, 3/8" drive. 3 11/16" long.

A118



A119A



S8659C



S6152



A119A Oil Pressure Sender Switch Socket. For 1986 and earlier Ford, GM, and Chrysler products. 1 1/16" special wrench configuration, 3/8" drive. 2 1/16" long.

A120 Oil Pressure Sender Switch Socket. For 1987 and later Ford, GM, and Chrysler. Same design as A119A above but longer. 1 1/16" special wrench configuration, 3/8" drive. 3 11/16" long.

S6152 Oil Pressure Sender Switch Crowfoot Wrench. Same applications as A119A but designed for switches with difficult access. 1 1/16" wrench opening, 3/8" drive.

S8659C Oil Pressure Sender Switch Wrench. For Ford, Chrysler, and GM vehicles with gauges. 9/16" open end, 3/8" drive, 3 3/4" long. A spring clip secures tool to the oil sender switch when removing it.

GDCT16



S6018E



S6132A



S6160



S6193



Cylinder Head

GDCT16 Gas/Diesel Combustion Leak Check Kit. Check for leaks between the combustion chamber and the cooling system on gas and diesel engines. Kit includes complete test chamber, a bottle (16 oz.) of indicator fluid, and instructions. Test head and gasket for combustion leaks before removing the radiator. Double chamber provides a high level of accuracy.

GDCT161 Leak Test Fluid. Optional 16 oz. bottle.

S6018E Hex Head Driver. 10mm hex bit for cylinder head bolts. 1/2" drive. 6" long. Bit length 4 1/2".

S6132A Metric Valve Cover Bolt Socket. For GM and 1976 and later Honda; other imports and domestics. 10mm, 12-point wrench size. Allows access to head bolts, valve and rocker covers, and oil pan bolts. Deep clearance for bolts with extended tip as used on spark plug wire harness. 3/8" drive; 11/16" OD. 4 1/8" long.

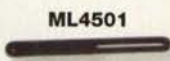
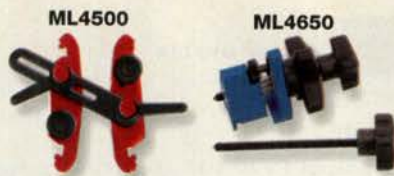
S6160 Extra-Long Impact Head Bolt Socket. For 1986 and later Nissan engines. 12mm, 12-point wrench size; 8" in length.

S6193 Head Bolt Socket. Use on all 1981 and later Toyota and Nissan cars and pick-ups and 1976 and later Honda and other import and domestic cars with 10mm head bolts. Additional uses include Ford drive-shaft universal-joint attaching bolts. 4 1/2" length reaches past cam and rocker assembly to service head bolts. Thin profile socket and shank will reach through the access hole and past overhead camshaft. 12-point, industrial finish.

S6194 Head Bolt Socket. Same as S6193 except it's for 12mm head bolts.

S6195 Head Bolt Socket. Same as S6193 except it's for 14mm head bolts.

Service Tools Engine Service



Timing

ML4500 Timing/Sprocket Locking Device. Use in twin cam, quad cam and diesel engine applications. Quickly and easily locks onto sprockets to ensure positive retention of engine timing. Holds camshaft in position during timing belt replacement. Useful across a wide range of applications from closely positioned sprockets to more widely spaced cam/injector pump sprockets on certain diesel engines. Pitch adjustment feature allows tool to adjust to sprocket diameter and tooth pitch. Provides maximum horizontal and lateral/offset adjustment. Ratchet lock handle permit strong lever action in tight quarters.

ML4501 Extension Arm. Optional extension arm for the ML4500 Engine Timing/Sprocket Locking Tool.

ML4650 Uni-Lock Cam Tool. Use in twin cam, quad cam and diesel engine applications. Quickly and easily locks onto sprockets to ensure positive retention of engine timing. Eliminates unnecessary re-timing. Features adjusting screw for various belt widths. Standard (3") and long (3 3/4") locking pins included.

AS4394 Camshaft Sprocket Holding Tool. For AS4559 Kit.

AS4395A Timing Belt Tension Tester. For AS4559 Kit.

AS4559 Universal Timing Kit. Kit contains the most popular special tools needed for timing belt replacement. Wide application coverage on twin cam and quad cam engines. Eliminates unnecessary re-timing.

AS4660 Timing Setting/Locking Kit. Combines all components and applications of the AS4653 GM/Daewoo Kit, AS4654 Ford/Mercury/Mazda Kit and AS4645 Chrysler/Asian Kit plus adds a Tensioner Retaining Pin set.

AS4653 Timing Setting/Locking Kit. A comprehensive selection of special service tools for maintaining engine timing position during timing belt replacement and valve train service work. APPLICATIONS:

Chevrolet: Lumina, Monte Carlo, 3.4 V6

Oldsmobile: Cutlass Supreme 3.4 V6

Pontiac: Grand AM, Le Mans, Sunbird 2.0, Grand Prix 3.4 V6

Daewoo: Lanos, Nubria 1.6

AS4654 Timing Setting/Locking Kit. A comprehensive selection of special service tools for maintaining engine timing position during timing belt replacement and valve train service work. APPLICATIONS:

Ford: Contour, Escort Z2X, Escape, Focus, Probe 2.0, Ranger 2.5, Taurus 3.2 V6

Mercury: Mystique 2.0, Cougar 2.0

Mazda: B2300, B2500

AS4655 Timing Setting/Locking Kit. Combines all components and applications of the AS4653 GM/Daewoo Kit and AS4654 Ford/Mercury/Mazda Kit.

AS4645 Timing Setting/Locking Kit. A comprehensive selection of special service tools for maintaining engine timing position during timing belt replacement and valve train service work. APPLICATIONS:

Chrysler: Cirrus, Sebring convertible 2.5 V6, Daytona Shelby, Dynasty E Class, Laser, LeBaron

Dodge: Avenger 2.5 V6, Colt wagon 2.4, Stealth 4WD 3.0 V6, Stratus 2.5 V6, Colt 1.6, Aries, Caravan, Dakota, Daytona/Shelby, Dynasty Lancer, Mini Ram Van, Omni, Shadow, Spirit 2.2/2.5

Plymouth: Colt Vista 2.4, Colt 1.6/200, Laser 2.0, Reliant, Acclaim, Caravelle, Duster, Horizon, Scamp, Sundance, TC3, Turismo, Voyager

Acura: 2.2CL, 2.3CL, 3.0CL, 3.2TL

Honda: Accord 2.2, 2.3, 3.0 V6; Prelude 2.2, 2.2VTEC, 2.3;

Odyssey 2.2, 2.3, 3.5 V6

Hyundai: Elantra 1.6 - 1.8, Sonata 2.0

Isuzu: Oasis 2.2 - 2.3, Amigo 2.2, Rodeo 2.2

Mitsubishi: Diamante 3.0 V6, 3.5 V6; 3000GT 3.0 V6; Eclipse/Spyder 2.0, 2.4, 3.0; Galant 2.0, 2.4, 3.0; Expo 2.4; Montero Sport 2.4, 3.0, 3.5 V6

AS4145 Timing Setting/Locking Kit. Avoid unnecessary re-timing. Covers both the locking of the quad cams and the crankshaft. Includes the special timing gauge essential for this application. APPLICATIONS: V6 Cadillac Catera, Saab 900, 9000 and 9.5 plus Saturn L300.

AS4425 Timing Setting/Locking Kit. Includes camshaft setting plates, flywheel TDC pin, pre-tensioning tools and tensioner locking pins. APPLICATIONS: BMW 318i, 318ti, Z3, 232i, 232is, 325i, 328i, 328is, 330i, 525i/Touring, 528i, 530i, M42, M44, M50, M52 and M54.

AS4440 Timing Setting/Locking Kit. Includes cam setting plates, front end support guides, tension adjuster and locking pins for most popular VW engines. APPLICATIONS: Audi A4, A6 / VW Corrado, Rabbit, Golf, Jetta, Scirocco, Passat, and new Beetle.

STMUM13A Metric Universal Socket. For late-model GM 4-cylinder vehicles. Used for timing adjustment; also provides access to hard-to-reach carburetors and distributors. 13mm, 12-point wrench size, 1/4" drive.

YA9680 Camshaft Pulley Tool. Nissan/Toyota. Designed to hold the camshaft pulley in place while turning the center shaft bolt. Extremely useful when used on transverse-mounted V6 engines such as Nissan Maxima/VG30 engine and Toyota Camry/3VZFE and 1MZFE engine. The rear pulleys on these vehicles are located in close proximity to the shock tower making it difficult to remove/replace the center shaft bolt without this useful tool.

YA9730 Timing Belt Tensioner Compressor. For 1995 and later T-100, Tacoma, and 4Runner. Turn square to compress tensioner, then install locking pin.



WARNING

• Read additional safety precautions on pages M1 to M4.



Engine Service Service Tools

PMP410A

PMM410A

205DPS



S9842A

Drain Plugs

PMP410A Female Pipe Plug Socket (for Renault LeCar).

10mm female square. For removing or replacing standard transmission drain plug. 3/8" drive. 3/4" OD. 1" long.

PMM410A Male Pipe Plug Socket (for Renault). 10mm male square. For removing or replacing oil pan plug. 3/8" drive. 11/16" OD. 1" long.

205DPS Oil Drain Plug Flip Socket Set. Set features sockets with both 6-point hex and twist configurations. Use the 6-point hex end for installing drain plugs. Use the 6-fluted twist end to easily remove fasteners with damaged hex heads. Knurling identifies the twist socket end. Socket size is clearly marked on the storage case. Black industrial finish helps prevent corrosion. Includes sockets in 14mm, 15mm, 16mm (5/8"), 17mm and 19mm (3/4") sizes. Use with impact wrench or hand driver. 3/8" square drive. All sockets are 2 3/8" long.

S6192A

YA4007

CJ112B

YA5500

S6158

Turning / Moving

YA5500 Flywheel Wrench. For domestic and import vehicles. Useful on cars where access is too limited for using spanner type wrenches. Slip over the rim of the flywheel and turn in the desired direction. 8 13/16" long. Red, vinyl-covered handle.

S6158 Engine Barring Socket. For 4L through 6.6L Chevrolet small block V8s. 1/2" drive.

Power Steering / Alternator / Water Pump

S6192A Water Pump Socket. 1/2" square drive socket features dovetail design to deliver positive engagement when applying high torque. Applications on 1992 to 1998 Cadillac Northstar 4.6L V8 and 1997 to 1998 Oldsmobile Aurora 4.0L. Black industrial finish.

S6192A-1 Water Pump Socket Strap. Bolts on water pump to secure S6192A Water Pump Socket in place during water pump removal and replacement.

Includes (2) M6 x 12 bolts for securing strap to water pump. Black industrial finish. **YA4007 Power Steering Bleeder Kit.** Use with YA4000 or any Hand-Held Vacuum Pump. Purges air from power steering system in less than five minutes. Eliminates squeaking in power steering due to trapped air. Also helps to prevent trapped air from damaging system.

CJ112B Power Steering/Alternator Pulley Puller. 4 9/16" long jaws. For those domestic cars with pulleys with large 1 5/16" flange. Nickel/chrome finish jaws, industrial finish.

CJ113B Power Steering/Alternator Pulley Installer. Designed for domestic cars. 1" pulley driver hex, 7/16" pressure screw hex, and 3/8"-16 thread. 4 5/8" long.

CJ113C4 Pulley Installer Shaft (Optional). Thread size of 5/8"-18UNF (puller end), 3/8" 16UNC (alternator end).

CJ117C Power Steering/Alternator Pulley Puller. Includes short adaptor to remove small flange-type pulley; use long adaptor on GM200/Platform vehicles. Can also remove Chrysler alternator pulleys that have double grooves. Replace pulleys with CJ113B Installer. Long adaptor included to handle pulleys on GM mini-vans. Nickel/chrome finish, industrial finish screw.

CJ122 Power Steering/Alternator Pulley Installer Set. Includes CJ113B Installer, and CJ113C4 Pulley Installer Shaft. 3/8"-18 UNF-2A.

CJ124A Power Steering/Alternator Pulley Puller. This is a larger version of CJ117C. Designed for Chrysler, Ford and earlier GM vehicles.

CJ147 Power Steering Gear Lower Pinion Bearing Puller. Required tool to comply with GM Recall Bulletin #02049 regarding Power Steering Gear Lower Pinion Bearing Separation on Chevrolet Cavalier (1996-1998), Chevrolet Lumina APV (1996), Chevrolet Venture (1997-1998), Pontiac Sunfire and Trans Sport (1996-1998), Pontiac Grand Prix (1997-1998) and Oldsmobile Silhouette (1996-1998). To correct the problem inspect the condition of the lower pinion bearing and replace the lower pinion bearing. In a few cases, replacement of the rack and pinion steering gear assembly may be necessary.

YA9025

YA9318

YA9417

YA9350

Belt Tensioning Tools

YA9025 Belt Tensioning Tool. For 1988 and later Tempo and Topaz with 2.3L engines and 1986 to current Taurus and Sable with 2.5L engines. Reaches down and around alternator to reach spring-loaded serpentine belt tensioner.

YA9318 Serpentine Belt Tensioner Release Tool. For most 1988 and later Ford 3.0L, 3.8L, 4.0L, 5.0L, and 5.8L engines plus most GM 2.8L, 4.3L, 5.0L, and 5.8L engines. Also for Mazda Navajo 4.0L engine.

YA9417 General Use Serpentine Belt Tool. General use belt tool for installation and removal of V-belts and timing belts. 2-pin design and long length allow user to push and pull belts as needed for access in restricted areas.

YA9340 Serpentine Belt Wrench. Use to release any serpentine belt tensioner with 1/2" square drive opening. Ratcheting action allows for better positioning of the tool, which gives more swing angle than a solid type serpentine belt wrench. The reversible ratchet head is only 1" thick so it will fit between the tensioner face and the fan blades on a Series 60 Detroit Diesel and some Caterpillar engines. This tool is also great for working on buses and delivery vans where the doghouse or engine shrouding can get in the way and make the work area very tight. Compact overall length keeps handle from coming in contact with radiator hoses, charged air cooler pipes, hydraulic lines or frame rails. Vinyl grip for comfort. 13" overall length.

YA9350 Ratcheting Serpentine Belt Tensioning Wrench Set. Allows direct access to belt tensioners without having to remove engine accessories or frame components. Will work on most serpentine belt systems equipped with spring-loaded tensioners. Includes wrench and six adaptors. All adaptors feature a 15mm external hex drive for use with the YA9350-1 wrench.

YA9350-1 Serpentine Belt Wrench. GM 2.0, 2.2, 2.8 Liter.

Dodge/Chrysler/Plymouth 3.0, 3.3, 3.9 Liter. 15mm single hex.

YA9350-2 Adaptor. Saturn 1.9 Liter. 14mm single hex.

YA9350-3 Adaptor. GM 2.0, 3.1 Liter. 18mm single hex.

YA9350-4 Adaptor. GM 2.0, 3.1 Liter. Ford 1.9, 2.3, 4.0 Liter.

3/8" square drive.

YA9350-5 Adaptor. GM 2.5, 4.9, 5.0, 5.7 Liter. Ford/Lincoln/Mercury 2.3,

3.0, 4.6 Liter. Dodge/Chrysler/Plymouth 3 Liter. 1/2" square drive.

YA9350-6 Adaptor. GM "Quad 4" 2.3 Liter. 13mm (1/2") single hex.

YA9350-7 Adaptor. GM 4.3, 5.0, 5.7 Liter. Ford/Lincoln/Mercury 2.3, 3.8, 4.0, 4.9, 5.0, 5.8 Liter. 16mm (5/8") single hex.

Service Tools Engine Service



YA188C

YA6010



YA9740B

Harmonic Balancer

YA188C Harmonic Balancer Installer. Includes seven adaptors for use on a wide range of engines. Adaptor sizes are 7/16"-20, 1/2"-20, 9/16"-18, 3/4"-16, M12 x 1.5, M14 x 1.5, and M16 x 2.0.

YA188-13C Metric Adaptor. Optional M10 x 1.5 adaptor for the YA188C Harmonic Balancer Installer.

YA6010 Harmonic Damper Pulley Holding Tool. Saves time during the removal and installation of the crank bolt on most Honda and Acura engines. When used with a 1/2" drive breaker bar or ratchet, the YA6010 prevents the pulley from rotating when removing/installing the pulley bolt. Can be used on most Honda (Accord, Civic, CRV, Del Sol, Insight, Odyssey, Prelude and S2000) and Acura (CL, Integra, Legend, NSX, RL and TL) engines. Verify exact model year/engine size coverage with tool instructions.

YA9740B Harmonic Damper Pulley Puller. Use on many Chrysler, Mitsubishi and GM engines. In most applications this compact tool eliminates the need to remove the radiator prior to removing the pulley. Includes YA9740A-6 Short Push Rod for use on crankshafts that are not drilled full depth plus two other push rods.

Chrysler: 3.3L V6 (1990 and later vans), 3.8L V6 (1994 and later vans), 8.0L V10 (1994 and later pick-ups), 3.3L and 3.5L V6 (1993 to 1997 autos), 2.0L 4-cylinder and 2.5L V6 (1995 and later autos), 2.7L DOHC V6 / 3.2L SOHC V6 / 3.5L SOHC V6 (1998 and later autos) plus 4.7L V8 (1998 and later).

Mitsubishi: Eclipse 2.0L DOHC non-turbo (1995-1999). **GM:** Gen III 5.7L V8 (1997 and later including Camaro, Corvette, Firebird and Trans-Am), Gen III trucks and SUV's with 4.8L V8, 5.3L V8, 6.0L V8 and 8.1L V8 (2000 and later). **Cadillac:** 4.5L V8 (1988-1992), 4.9L V8 (1991-1995), 4.6L (1993 and later), Escalade with 6.0L V8 engines.

Oldsmobile: 4.0L V8 (1995 and later).

YA9740A-6 Short Push Rod. Short push rod for older model YA9740 Pullers. Use on crankshafts that are not drilled to full depth.



S5911

YA8640

YA7200

YA6240

YA9870

Specialty Tools

S5911 Offset Box Wrench. Offset Box Wrench (for VW). For VW S-shaped wrench has 12-point, 13 and 14mm offset box ends to service carburetors, heater junction boxes, and exhaust systems. 5 13/16" long (147.6mm).

Nickel/chrome finish. 12-point, 13 and 14mm box ends. For Heater junction boxes, carburetors, and exhaust systems. 5 13/16" long. "Designed for access to VW heater junction boxes, carburetors, and exhaust systems."

YA7200 Ford Ignition Module Wrench. For 1982 and later Ford ignition modules. Ratcheting ends are offset 25 degrees. One end has 7/32", 6-point; other end a T20 TORX® Bit.

YA8640 Cam Belt Wrench. For VW and Audi. For adjusting camshaft spur belts that have idler pulleys with pin holes. Vinyl handle grip.

YA6240 Tension Pulley Spanner Wrench. Use on 1998 and later VW and Audi models. Easily access confined engine compartments to quickly adjust camshaft timing belts that have idler pulleys with pin holes. Working end features a one-piece machined block with tips. Wrench is engineered with the correct handle angles for maximum clearance. Industrial black finish with cushioned grip. 10" (254mm) length.

YA9870 Tension Pulley Spanner Wrench. Easily adjust camshaft spur belts having idler pulleys with pin holes on Mitsubishi, Plymouth, and Eagle vehicles. The protruding pins on the wrench grip the center of the idler pulley and rotates it around its off-center retaining bolt. This rotation allows for the camshaft spur belt tension adjustment. Designed for use on: 1990-93 Mitsubishi Eclipse, Eagle Talon and Plymouth Laser 2.0L DOHC (non turbo), 1990-93 Plymouth Laser 2.0L DOHC (turbo), 1990 and later Mitsubishi Eclipse and Eagle Talon 2.0L DOHC (turbo), 1994-96 Mitsubishi Montero 3.5L DOHC, 1994 and later Mitsubishi Montero 3.5L SOHC, 1994 and later Mitsubishi Galant 2.4L SOHC and 1994 and later Mitsubishi Mirage 1.8L SOHC.



YA9210

YA4590

YA6017

YA9210 Crankshaft Pulley Tool. For 1981 and later Chrysler 2L and 2.5L engines. Hole pattern allows for 4 or 5-bolt configuration.

YA4590 Hood Prop. Has a range of 18 1/2 to 46 3/4". Will work on front or sides of any car or truck. Made of steel tubing and features locking levers on each section.

YA6017 Camshaft and Balance Shaft Seal Installer. Allows the technician to properly align & press the seal into the seat without removal of major engine components. APPLICATIONS:

Honda:

Accord: 2.2L 4 cylinder (1990 to 1997), 2.3L 4 cylinder (1998 and later).
Odyssey: 2.2L 4 cylinder (1995 to 1997), 2.3L 4 cylinder (1998).
Prelude: 2.2L 4 cylinder (1992 and later), 2.3L 4 cylinder (1993 to 1996).

Honda: (Camshaft Seal only):

CRV: 2.0L 4 cylinder (1997), 2.0L 4 cylinder (2001 and later).

Acura: (Camshaft and Balance Shaft Seal):

CL: 2.2L 4 cylinder (1997), 2.3L 4 cylinder (1998 to 1999).

Acura: (Camshaft Seal only):

Integra: 1.6L 4 cylinder (1990 to 1992), 1.7L 4 cylinder (1992 to 1993), 1.8L 4 cylinder (1993 and later).

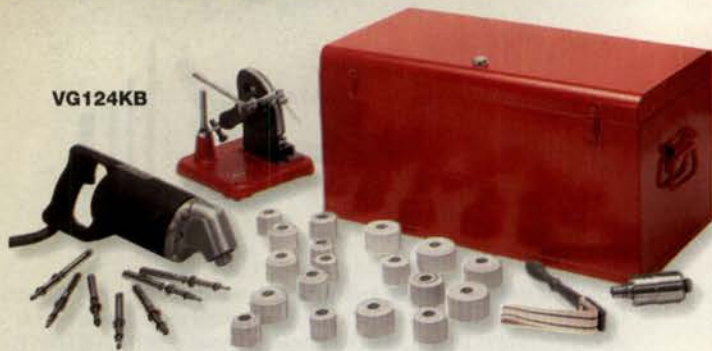


WARNING

• Read additional safety precautions on pages M1 to M4.



Valve Valve Seat



Valve Seat Grinders

VG124KB Heavy-Duty Valve Seat Grinder Set. Includes heavy-duty driver unit, ball bearing stone carrier, arbor puller pin, diamond wheel dresser, strap wrench, and a complete range of valve seat grinding wheels in a KRA100E Metal Box. The following valve seat grinding wheels are also included in all VG124 Series Sets (see page E56 for specifications):

VSK4015G, VSK4415G, VSK4430G, VSK4815G, VSK4830G, VSK5015G, VSK5215G, VSK5230G, VSK5615G, VSK5630G, VSK6015G, VSK6030G, VSK6415G, VSK6430G, VSK6830G, VSK6815G, VSK7215G, VSK7230G.

The following valve guide pilots are also included in this set (see page E56 for specifications):

VA275, VA313, VA315, VA344, VA354, VA375, VA437

VG124K Valve Seat Grinder Set. This is the VG124KB Set without the metal box.

VG124KB220 Valve Seat Grinder Set. This is the 220V version of VG124KB.

VG124K220 Valve Seat Grinder Set. This is the VG124KB220 Set above without the metal box.

KVG1 Heavy-Duty Driver Unit. 115V, 50 Hz/60 Hz single-phase unit with a convenient, built-in 45° angle. Has the capacity to use 7/16" or 13/32" hex drive grinder units.

KVG1-230 Heavy-Duty Driver Unit. This is the 230V version of the KVG1. Use only with VG20 Wheel Carrier.

VG25C



Diamond Wheel Dresser

VG25C Diamond Wheel Dresser.

Dresses any angle on all type grinding wheels up to 6 1/2" diameter. Plunger is carried by sliding housing and holds diamond in true alignment. Diamond has over 1/2" screw adjustment. Cast iron base.

VG25-6 Replacement Diamond Screw.

VG20



VG15-2



VG17



VG20-1



Wheel Carriers and Adaptors

VG20 Wheel Carrier. Inner sleeve engages pilot groove to prevent turning. Wheel carrying outer sleeve rides and rotates on sealed ball bearing around inner sleeve. Must be used with "VA" Series arbors. 13/16"-13 thread.

VG20-1 Wheel Carrier Adaptor. Allows use of 1" and 1 1/8" grinding wheels on VG20 Wheel Carrier.

VG17 Wheel Carrier Adaptor. Adapts earlier version driver unit, VG16B, to VG20 Wheel Carrier.

VG15-2 Wheel Carrier Adaptor. Allows use of 1 1/4" to 4" grinding wheels on VG15. Adapts 5/8"-18 threads to 13/16"-13 wheel threads.

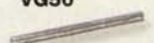
VG100



YA8815



VG50



YA8830



VG32



Valve Seat Grinding Tools

VG50 Arbor Puller Pin. For removing arbors from valve guide.

VG100 Strap Wrench. Makes removal of valve seat grinding wheels from driver easy.

VG32 Runout Gauge. Precisely measures correctness of finished job when used with VA Series Arbors.

YA8815 Cylinder Head Stand. For valve work, head cleaning, and assembly. 5" long tapered holding rods are bolted to 8" long bar channel stock to hold heavy cylinder heads.

YA8830 Cylinder Head Stand. Holds cylinder head up and away from the workbench, allowing clearance for the manifolds. Steel bar clamps to a bench vise. Simply slide on the movable arms, which adjust to almost any steel or aluminum head configuration.

Wheels and Pilots Valve

Valve seat grinding wheels (13/16"-18 thread size) come in four different angles (15°, 30°, 45°, and 90°), and in three different styles:

General Purpose (white) Finishing (black) Stellite (porous)
"VSK" Series wheels (1/4" to 3") attach directly to VG20 Wheel Carrier (page E55). 1" and 1 1/8" diameter grinding wheels must be used with VG20-1 Adaptor in conjunction with VG20 Wheel Carrier (page E55). 1 1/4" thru 4" diameter grinding wheels—if using old style VG15 Wheel Carrier, VG15-2 Wheel Adaptor must also be used.

Special Grinding Wheel

UVS36A Special Grinding Wheel. 1 1/8" diameter. This general-purpose wheel features a 15° angle and 5/8"-18 threads for threading directly to old-style VG15 Wheel Carriers.

UVS36A



VSK3215G



General Purpose Wheels (White)

Diameter, inches	15° Wheel	30° Wheel	45° Wheel	90° Wheel
1	VSK3215G	VSK3230G	—	—
1 1/8	VSK3615G	VSK3630G	—	VSK3690G
1 1/4	VSK4015G	VSK4030G	VSK4045G	—
1 3/8	VSK4415G	VSK4430G	VSK4445G	—
1 1/2	VSK4815G	VSK4830G	VSK4845G	—
1 5/8	VSK5015G	VSK5030G	VSK5045G	—
1 3/4	VSK5215G	VSK5230G	VSK5245G	—
1 7/8	VSK5615G	VSK5630G	VSK5645G	VSK5690G
2	VSK6015G	VSK6030G	VSK6045G	—
2 1/8	VSK6415G	VSK6430G	VSK6445G	VSK6490G
2 1/4	VSK6815G	VSK6830G	VSK6845G	—
2 1/2	VSK7215G	—	VSK7245G	VSK7290G
2 3/8	VSK7615G	VSK7630G	VSK7645G	VSK7690G
2 1/2	VSK8015G	VSK8030G	VSK8045G	VSK8090G
2 3/4	—	—	—	VSK8490G
2 3/4	VSK8815G	VSK8830G	VSK8845G	—
3	VSK9615G	VSK9630G	VSK9645G	—
3 1/4	—	—	—	VSK10490G
3 1/2	—	—	—	VSK11290G
3 3/4	—	—	—	VSK12090G
4	—	—	—	VSK12890G

VG20-1 Wheel Adaptor Allows Use of VSK Series Wheels Smaller Than 1 1/4"

VSK Grinding Wheel 1" to 1 1/8"



VSK4015F



Finishing Wheels (Black)

Diameter, inches	15° Wheel	45° Wheel	Diameter, inches	15° Wheel	45° Wheel
1 1/4	VSK4015F	VSK4045F	1 7/8	VSK6015F	VSK6045F
1 3/8	VSK4415F	VSK4445F	2	VSK6415F	VSK6445F
1 1/2	VSK4815F	VSK4845F	2 1/8	VSK6815F	—
1 5/8	VSK5015F	—	2 1/4	VSK7215F	—
1 3/4	VSK5215F	VSK5245F	2 3/8	VSK7615F	—
1 3/4	VSK5615F	VSK5645F	2 1/2	VSK8015F	—

VSK4815S



Stellite Wheels (Porous)

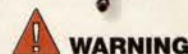
Diameter, inches	15° Wheel	30° Wheel	45° Wheel	90° Wheel
1 1/4	—	—	—	VSK4090S
1 3/8	—	—	—	VSK4490S
1 1/2	VSK4815S	—	VSK4845S	—
1 5/8	VSK5215S	—	VSK5245S	—
1 3/4	VSK5615S	—	VSK5645S	—
1 7/8	VSK6015S	VSK6030S	VSK6045S	—
2	VSK6415S	VSK6430S	VSK6445S	—
2 1/8	VSK6815S	—	—	—
2 1/4	VSK7215S	—	—	—
2 3/8	VSK7615S	—	—	—
2 1/2	VSK8015S	—	—	—
2 3/4	—	—	—	VSK8890S
3	—	—	—	VSK9690S

VA Series Pilots

New-Style Valve Guide Pilots. Nominal expansion range -.002" to +.008". Expandable, tapered pilots use "centerline" principle by locating for true accuracy in the least worn area of the valve guide. Equipped with expansion sleeve that eliminates the need for undersized or oversized arbors. Use only with VG20 Wheel Carrier (page E55).

Stock No.	Pilot Size, inches	Stock No.	Pilot Size, mm	Stock No.	Pilot Size, mm
VA250	1/4 (.25)	VA217	5.5	VA335	8.5
VA281	5/32 (.281)	VA236	6	VA354	9
VA313	3/16 (.3125)	VA255	6.5	VA393	10
VA344	11/32 (.344)	VA275	7	VA433	11
VA375	3/8 (.375)	VA295	7.5	VA472	12
VA391	7/16 (.4375)	VA315	8		
VA437	1/2 (.5)				

VA Series Pilots



WARNING
• Read additional safety precautions on pages M1 to M4.

See Warranty Information on inside front cover.

Valve

Valve Refacing



VG3000

KRA16



Valve Rack

KRA16 Valve Rack. Sixteen 11/16" holes provide easy access to valves. Hang on roll cab or tool chest with 1/4" or more lip. This handy unit hooks over the lip of any Snap-on® roll cab.

Deluxe Valve Refacer

VG3000 Valve Face Grinder. Reface valves on most domestic and import vehicles. Grinds valve angles from 0° to 46°. Variable-speed chuck (150 RPM to 300 RPM) lets you choose RPM to match valve diameter. Adjustable grinding head allows different size and shape valves to be ground within capacity of machine. Chuck position marks on carriage permit grinding at all valve face angles. Coolant hose mounted on chuck head gives constant cooling during grinding. Uses 7" grinding wheel. 18" base length x 25 3/4" base width.

Specifications

Chuck Capacity, inches	.230" to 1 1/16"
Chuck Capacity Stem	—
Max. Valve Head Diameter	6"
Valve Wheel Diameter	7"
Spindle Drive Motor	1/2 hp
Chuck Drive Motor	1/6 hp

VG300050 230V Valve Face Grinder. Same features as VG3000 except for 230V, single-phase, 50-cycle voltage version.

VG500 Valve Service Cabinet. Support cabinet for the VG3000 Valve Face Grinder. Features lockable door and two removable valve racks for valve wheel storage. Manufactured from 16-gauge steel. Measures 33 1/2" high x 31 3/4" wide x 18" deep.

VRW250



Valve Refacing Wheels

These grinding wheels are for earlier-model valve refacers only (VR200 and VR500 Series).

VRW Series. 5/8" hole size, 5" in diameter. 80-grit aluminum oxide wheels are designed for stellite valves. Dressed to 90°. 1/4" and 3/8" wheels are standard equipment on Snap-on® grinders; older models requiring 1/2" wheels must be dressed to 15° angle.

VRW250 Grinding Wheel. 1/4" wheel width.

VRW375 Grinding Wheel. 3/8" wheel width.

VRW500 Grinding Wheel. 1/2" wheel width.

Valve Adjustment

Valve Adjustment Tools

Valve-Adjusting Tools (for current VW). These two tools are designed to be used together on all late models requiring the VW #2078 tool, which includes all current 5-cylinder VWs and Audi 5000.

YA8825 Valve Adjusting Tool. For Toyota and other overhead camshaft engines using spacer shims. Shim pliers push between the shim and camshaft, allowing the included YA8825-1 Wedge Tool to be placed between the valve lifter ledge and camshaft for easy shim replacement.

YA8825-1 Wedge Tool. Wedge Tool to be placed between the valve lifter ledge and camshaft for easy shim replacement.

V22A Valve Adjusting Tool. For Dodge trucks with Cummins diesel engines, Ford V8, Mercury, Lincoln, Ford "6," F-7, F-8, and cab-over-engine trucks, and Chevrolet "6." 1/2" socket also required for all valve adjustment work. Offset handle clears manifold. 7 1/2" long.

YA8825



V22A



YA8895



S6132A



S6167



Metric Jam Nut-Type Adjustment Tools

Include an idle adjustment screwdriver within a socket and handle for holding adjustment screw in place while the jam nut is tightened. Handle pivots from one side to the other so the socket "window" is always visible.

YA8895 Metric Valve Adjustment Tool. For all cars with 10mm jam nut valve screws.

YA8880 Metric Valve Adjustment Tool. For all cars with 12mm jam nut valve screws.

Cover Bolt Sockets

S6132A Metric Valve Cover Bolt Socket. For GM and 1976 and later Honda; other imports and domestics. 10mm wrench size, 12-point wrench size. Allows access to head bolts, valve and rocker covers, and oil pan bolts. Deep clearance for bolts with extended tip as used on spark plug wire harness. 3/8" drive; 11/16" OD. 4 1/8" long.

S6185 Metric Valve Cover Bolt Socket. Similar to S6132A but designed for GM 2.8L, 3.1L, and 3.8L engines. For pressed valve covers with a spark plug wire loom pin. 10mm wrench size, 12-point, 3/8" drive. 11/16" OD, 3 5/8" long.

S6167 Extra Long Metric Valve Cover Bolt Socket. For GM 2.8L vehicles with TBI (throttle body injection) and early GENI multi-port fuel injection vehicles. Extra long to reach the stud nut on the stud assembly. 8mm, 12-point design. The S6167 is 104.8mm long with a bolt clearance depth of 52mm and a socket end diameter of 11.6mm.

Lifters / Compressors



Valve Lifters

CF49B Valve Lifter. Capacity is 2 3/8" for up to 300 lb. of coil strength. For most "L" head cars with straight stem valves. 9 1/4" long.

CF811B C-Clamp Compressor. 1" to 2" capacity. For "L" head, valve-in-head, high-compression engines and vehicles with overhead valves. Activating mechanism prevents cocking of valve spring as it is compressed. Use CF771 for removal of keepers.

CF19B Compact Model C-Clamp Compressor. This compact model includes CF19-3A Jaws for 1/4" to 1 1/16" diameter springs on small, air-cooled engines and CF19A5 Jaws for both 17mm and 20.8mm-diameter springs on Honda engines.

CF19-3A Compact Model C-Clamp Compressor. Jaws for CF19-3A to adapt for 1/4" to 1 1/16" diameter springs on small, air-cooled engines.

CF19A5 Compact Model C-Clamp Compressor. Jaws for CF19-3A to adapt for both 17mm and 20.8mm diameter springs on Honda engines.

CF700B Air Operated C-Clamp Compressor. 7/8" to 2 1/2" capacity. Operates on 90 PSI to 150 PSI, but develops up to 3 times output pressure. Tool measures 1" x 8". NSN 5130-096-6677 applies to this unit.

CF22E Replacement Jaw Set. Medium, offset jaws with 1" to 2" capacity. For CF811 and CF700.

CF21B Optional Jaw Set. Small, straight jaws with 7/8" to 1 7/8" capacity. For CF811 and CF700.

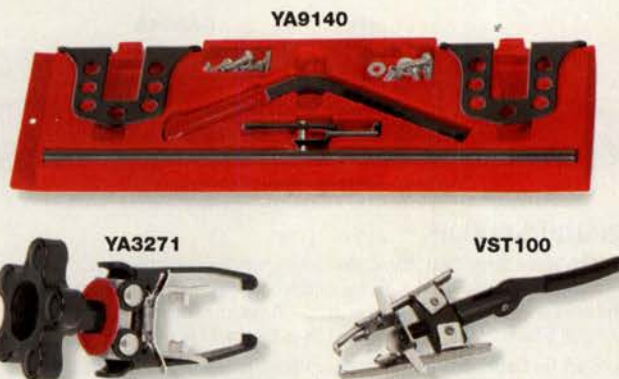
CF23A Optional Jaw Set. For CF811 and CF700. Large, straight jaws with 1 1/2" to 2 1/2" capacity.

Valve Spring Compressors

YA9140 Universal Valve Spring Compressor. Removes/installs the valve spring without removal of the cylinder head from the engine. Domestic and import servicing of single and double overhead cam engines, including Audi, Chrysler, Infiniti, Honda, Hyundai, Lexus, Mazda, Mitsubishi, Nissan, Porsche, Saturn, Toyota, Volvo, and Volkswagen.

YA3271 Valve Spring Compressor. For most cars and trucks with overhead valves. Works with cylinder head on or off the engine. Removable hand wheel provides option to use 5/8" socket or wrench in confined quarters.

VST100 Cam Operated Valve Spring Compressor. Eliminates the need to for cylinder removal. Design eliminates the need to readjust tool to each spring. Works on most overhead valve engines.



Valve Spring Depressors

S6121 Valve Spring Depressor. For current Pontiac L4 2.5L, V6 2.8L, and all current Chevrolet and Pontiac V8 engines. Also for 1980 AMC Spirit. Fastens under rocker arm stud and pivots on valve spring. Slot clears valve keeper for easy removal. 10" long.

CG90 Self-Leveling Valve Spring Depressor. Self-leveling action compensates for any helix angle spring. Jaw length can be adjusted. Pulls with equal pressure on both jaws.

Valve Service Tools



Valve Keeper Tool

GA318 Overhead Valve Tool. Removes and replaces valve keepers on all gas and diesel overhead valve engines, even VW Rabbit, motorcycle, marine, and aircraft engines. Magnetically retains keepers, and it won't bend valve stems. Use in place of C-clamp or other type of compressors. Use only with a soft-faced hammer.



WARNING

- Do not operate without eyeshields, guards, and holders in place.
- Do not use grinding wheels, discs, or wire brushes above their maximum rated RPM.
- Do not grind on the side of a grinding wheel or disc.
- Read additional safety precautions on pages M1 to M4.



Valve

Valve Service Tools

Camshaft / Crankshaft Tools

GA285 Camshaft Bearing Remover and Inserter Set. Removes and inserts bearings in all engines. Five driving plugs handle a range of 1.475" to 2.690". Fits slightly undersized or oversized bearings. Packed in a sturdy plastic box.

YA9217 Camshaft Seal Installer. For Toyota 3AC, 3EE, 4AC, 3S-FE, 3S-GE, 4A-GE, and 5S-FE engines. These transversely mounted engines bring the camshaft close to the shock tower, making shaft seal replacement difficult with conventional methods, but the YA9217 makes it much easier.

YA6230 Crankshaft/Camshaft Seal Installer Set. Installs crankshaft seal on Toyota/Lexus and camshaft seals on many straight 6-cylinder, V6 and V8 engines. Includes installer cup, adaptor tube, three threaded rods and nut and washer. APPLICATIONS:

Toyota/Lexus Crankshaft:

- 4 Cylinder (1.5L, 1.6L, 1.8L, 2.0L, 2.2L, 2.4L and 2.7L),
- 6 Cylinder (2.8L and 3.0L), V6 (2.5L, 3.0L and 3.4L),
- V8 (4.0L, 4.3L and 4.7L).

Straight 6-Cylinder/V6/V8 Camshaft:

- 6 Cylinder (2.9L and 3.0L), V6 (2.5L, 3.0L and 3.4L)
- V8 (4.0L and 4.3L).

YA6235 Crankshaft/Camshaft Seal Installer Kit. Updates older YA9215 Crankshaft/Camshaft Seal Install Tool (for Toyota 5M-GE engines, 2.8L, 6-cylinder) to full capability of YA6230 Set. See YA6230 for full list of applications.



YA9217



YA6230



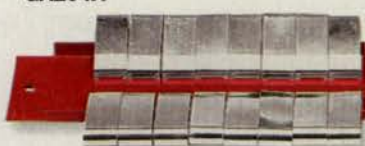
YA6235



YA8230



GA264A



VL2



KD2079



General Service

YA8230 Valve Stem Seal Pliers. Removes valve stem seals from overhead camshaft engines including 4 valve per cylinder engines that have restricted access to the valve stem seal due to the head design. Gripping serrations in the pliers tip easily grab both OEM and aftermarket seals with ease. Easy grip handles.

GA264A Oil Deflector Set. For engines with pressure-lubricated push rods. Deflectors clip onto rockers and deflect oil from feed holes to return oil to engine and eliminate splash. Sixteen deflectors are clipped to a metal storage panel.

Valve Holders. Each includes two suction cups for use when hand grinding flat head unslotted valves. Hardwood handle.

VL2 Valve Holder. 5/8" and 13/16" diameter suction cups.

VL3 Valve Holder. 1 1/8" and 1 3/8" diameter suction cups.

KD2079 Tappet Removal Tool. Removes most hydraulic tappets. Expand tips and secure in valve groove. The T-bar section is then used as a slide hammer to jolt tappets loose. Or use the three adaptors to convert tool to a puller.

Valve Guide Service Tools

Valve Guide Brushes

Brush wire is woven into twisted wire strands. Each features a fluted, wooden handle.

AC10A. 5/16" diameter brush.

AC11A. 11/32" diameter brush.

AC12A. 3/8" diameter brush.

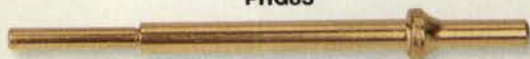
AC10A



BCG24



PHG83



Metric Valve Guide Removers

Designed for use with Snap-on® air hammers. Can also be used as drift punches.

PHG97. 5.5mm bit. 5.5mm pilot. 176mm long.

PHG96. 7mm bit. 7mm pilot. 189mm long.

PHG83. 8mm bit. 8mm pilot. 189mm long.

PHG86. 9mm bit for VW and Porsche 911 air-cooled engines. 9mm pilot. 189mm long.

Valve Guide FLEX-HONE® Kit

BCG24 Valve Guide FLEX-HONE® Kit. Each honing tool includes abrasive globules that are independently suspended for a soft cutting action. This also allows the honing tool to be self-centering and self-aligning to the bore as well as self-compensating for wear. All sizes are 240 grit with recommended RPM of 500 to 1200 and honing time of 20 to 45 sec. Kit includes:

BCG2464. 6.4mm (1/4")

BCG247. 7mm (9/32").

BCG248. 8mm (5/16").

BCG249. 9mm (11/32").

BCG2495. 9.5mm (3/8").

BCG2410. 10mm (13/32").

BCG2411. 11mm (7/16").

Hones



CF61CS



CFL10



CFL5

Standard Duty

CF61CS Cylinder Hone. For 2" to 7" diameter cylinders. Self-centering and self-bottoming with spread limiters to control hone diameter. Spring action gives correct tension when using with an electric drill. Includes three 220 grit (medium) stones. All available stones are 3" long.

CF61-100 Stone Set. Three 100 grit (coarse) stones.

CF61-12S Stone Set. Three 220 grit (medium) stones.

CF61-14S Stone Set. Three 400 grit (fine) stones.

CF62CS Cylinder Hone. Similar to CF61CS but for 2" to 6 3/4" diameter cylinders; it also has larger stones. Includes three 220 grit (medium) stones. All available stones are 4" long.

CF62-100 Stone Set. Three 100 grit (coarse) stones.

CF62-12S Stone Set. Three 220 grit (medium) stones.

CF62-14S Stone Set. Three 400 grit (fine) stones.

FLEX-HONE® Brush-Type Hones

For fast, efficient deglazing. Silicon carbide laminated to the ends of high-density bristles provide a consistent crosshatch pattern. All sizes are 12" long with a flexible shaft and are 180 grit (medium).

BCG83 3 1/4" (83mm) diameter.

BCG89 3 1/2" (89mm) diameter.

BCG95 3 3/4" (95mm) diameter.

BCG105 4 1/8" (105mm) diameter.

BCG118 4 5/8" (118mm) diameter.

Not Available for Export



BCG95

Heavy Duty

CFL10 Heavy-Duty Stone Set. Standard range of 3" to 4 1/4" (up to 10" with optional rack sets). Expandable racks adjust to cylinder size, clip-on stones, and felt wipers. Has universal joint action for getting at back cylinders. Includes two 180 grit (medium) and two 80 grit (coarse) silicon carbide stones in a plastic storage box.

Optional Accessory Sets:

CFL10-1	Stones/Wipers for steel.	150 grit.
CFL10-4	Stones/Wipers.	80 grit (coarse).
CFL10-3	Stones/Wipers.	180 grit (medium).
CFL10-2	Stones/Wipers.	280 grit (fine).
CFL10-14	Stones/Wipers.	500 grit (extra fine).
CFL10-5	Undersized racks.	2 3/4" to 4 1/2".
CFL10-6	Standard racks.	3" to 4 1/4".
CFL10-7	Standard racks.	4" to 6 1/2".
CFL10-8	Standard racks.	6 1/2" to 10".
CFL10-9*	Stones/Wipers.	280 grit (fine).
CFL10-11*	Stones/Wipers.	80 grit (coarse).
CFL10-10*	Stones/Wipers.	180 grit (medium).

*Undersized stones/wipers are for use with CFL10-5.

CFL5 Cylinder Hone Set. For 1 3/4" to 2 3/4" diameter cylinders. Includes three 180 grit (medium) stones/wipers and a plastic storage case.

Cylinder Size Range, inches	80 Grit (Coarse)	180 Grit (Medium)	280 Grit (Fine)	For Aluminum
1.75 - 2.20	CFL5-20	CFL5-17	CFL5-14	CFL5-23
2.05 - 2.50	CFL5-21	CFL5-18	CFL5-15	CFL5-24
2.35 - 2.75	CFL5-22	CFL5-19	CFL5-16	CFL5-25

Cylinder Service Tools



S8663B



CM6460



GA3627

Cylinder Head Wrenches

Designed for getting around obstructions and reaching into restricted areas when removing or torquing cylinder head bolts. Useful in a variety of applications. Features a nickel/chrome finish.

Wrench Size, inches	Clearance Between Heads, inches	Clearance Head Center to Shank, inches	Length, inches
S8663B	1 1/16	6 11/32	1 31/32
S9513C	3/4	5 11/32	2 1/4

Cylinder Bores

CM6460 Cylinder Bore Gauge. Range is 2.125" to 7" in .0005" increments. Quickly determines cylinder taper and out-of-roundness. Packaged in plastic case. Also available with metric graduations on special order only.

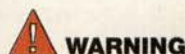
GA3627 Cylinder Bore Gauge. Measure cylinder wear without removing pistons. Can also check cylinder diameter when used with micrometer. Range is 2.6" to 7" in .001" increments and measures to a bore depth of 8". Set includes gauge, six extensions (0.2", 0.4", 0.6", 0.8", 1.0" and 2.0") plus plastic storage case.

Ridge Reamer

WR30A Ridge Reamer. Lathe-type reamer is for 3" to 5" diameter cylinders. Centers itself in cylinder.
WR30A10 Replacement Cutter Bit.



WR30A



WARNING

- Operate hone only while it is within cylinder.
- Read additional safety precautions on pages M1 to M4.



Piston Piston Service Tools

RC150A



RC40C



RCL30



RC980



RCW60



Ring Compressors

Clutch control holds tension band in position as piston is inserted into cylinder. 1/2" wide spring bands equalize tension over belt width so ring assembly may be compressed into groove until flush with piston. "V" beads on lower edge of belt keep tool from entering cylinder. RC40C can be used upside down for Chevrolet, Mercury, and Ford trucks with angled blocks.

RC150A Ring Compressor. 4-band. 3 1/2" to 7" capacity. 7" deep.

RC50C Ring Compressor. 2-band. 3 1/2" to 7" capacity. 3 1/2" deep.

RC40C Ring Compressor. 2-band. 2 1/8" to 5" capacity. 3 1/2" deep.

RCL30 Ring Compressor. 1-band. 2 1/2" to 5" capacity. May be disassembled and removed from around connecting rod when used on small aircraft, motorcycle, or other engines that require the cylinder to be pushed over the piston during assembly.

RCW60 Ring Compressor. 1-band. 3" to 5" capacity. 1 1/2" deep. Has low-friction wrinkle band construction with thumbscrew for precise adjustment. Also can be used on small aircraft and motorcycle engines where cylinders are pushed over piston during assembly.

RC980 Ring Compressor. Works both horizontally and vertically with pliers-grip handle. Has a fine-tooth ratcheting mechanism. Includes 6 hardened steel bands: 2 7/8" to 3 1/8", 3 1/8" to 3 3/8", 3 3/8" to 3 5/8", 3 5/8" to 3 7/8", 3 7/8" to 4 1/8", and 4 1/8" to 4 3/8".

RC980-7 Optional Band. 4 1/2" to 4 3/4" capacity.

RC980-8 Optional Band. 4 3/4" to 5" capacity.

RC980-9 Optional Band. 5" to 5 1/4" capacity.

RC980-10 Optional Band. 5 1/2" to 5 3/4" capacity.

RC980-11 Replacement Pliers.

YA7082



Pin Tool

YA7082 Piston Pin Remover/Installer Set. Use with 5 to 10 ton shop press to handle piston pins from .855" to 1.062". Unique anvil with interchangeable inserts directs pressing force only to the pin. Set is neatly displayed in a blow-molded plastic case.

RC500



RC510A



Ring Groove Cleaners

RC500 Ring Groove Cleaner. For pistons with grooves of 5/64", 3/32", 1/8", 5/32", and 3/16" with diameters from 2 1/2" to 5".

RC500-1 Replacement Cutter Blade.

RC500-11 Optional Cutter Blade. For 1/8", 1/4", 5/16", 2.5mm, and 3mm grooves.

RC510A Ring Groove Cleaner. For pistons with grooves of 5/64", 3/32", 1/8", 5/32", and 3/16" with diameters from 1" to 5".

RC510-1 Replacement Cutter Wheel.

RC510-3 Adaptor. Adapts RC510A for use on pistons with diameters of 1" to 2 3/4".

RC510-6 Replacement Knurled Nut.

RC510-7M Optional Metric Cutter Wheel.

PRS8



PRS10



Ring Expanders

PRS8 Piston Ring Expander. Installs piston rings from 3/64" to 1/4" thick. Eliminates breakage or distortion of rings. 7" long.

PRS10 Piston Ring Expander. 2 3/4" to 4 1/4" ring capacity. Remove or install both step-cut and diagonal-cut rings. Spring tension eliminates the need for adjustment.

PRS12 Piston Ring Expander. Similar to PRS10 but with 4 1/2" to 7" ring capacity. Excellent for heavy-duty diesel applications.

HLE24



Dead Blow Hammer

HLE24 Piston Hammer. Made of material that won't damage the piston. Shot-filled head drastically reduces rebound. Head length is 7 3/4". Diameter is 1 1/4" to 1 1/2" with a reach of 5 1/2" to the handle shoulder. Overall length is 12 3/4".

Insertor / Remover Set

Bushing / Seal

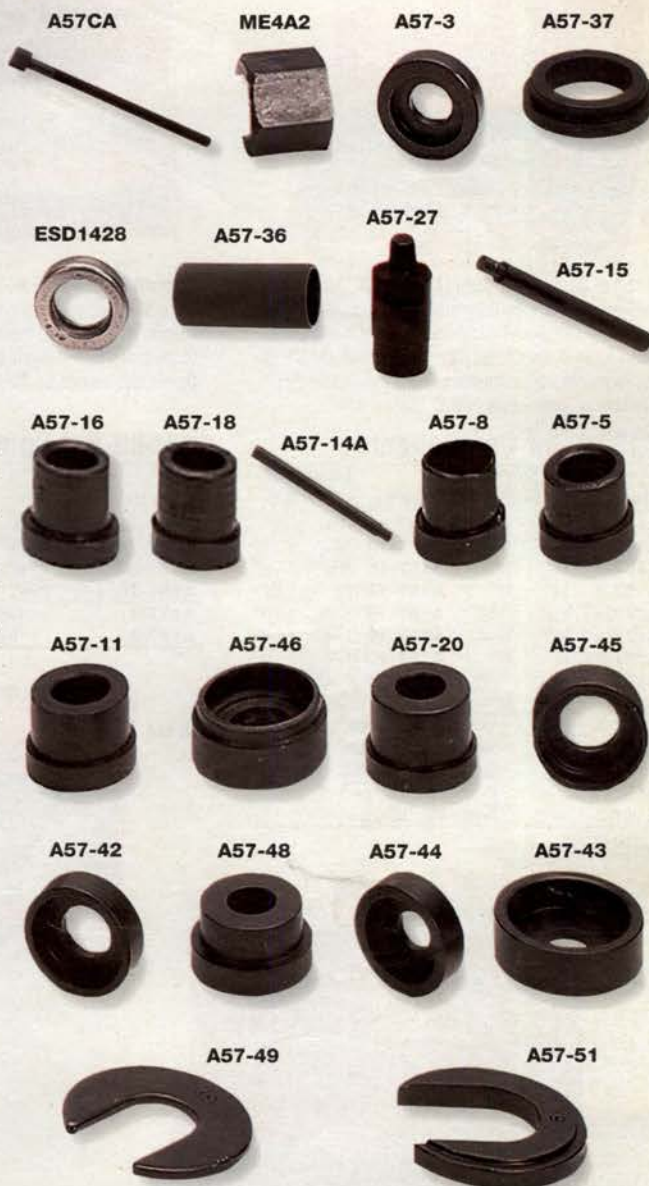
A57Q



A57Q Set. For standard and specialized bronze, steel, rubber, or Enlox bushings. Range of adaptor sizes covers nearly all shackle and steering bushings. New bushings are inserted by tightening screw, which forces the bushing into place without hammering. Sleeve permits forcing out of old bushings and is particularly useful where limited space prevents driving them out. Set includes illustrated tools and the optional KRA104 Metal Box. The five smallest adaptors are used only with the smallest driver.

Stock No.	Description	Stock No.	Description
A57CA	Screw (1/2"-20)	A57-41	Sleeve Plate (1 1/16" ID)
A57-35	Screw (5/8"-18)	A57-38	Sleeve Plate (1 1/2" ID)
ME4A2	Nut (1/2"-20)	ESD1428	Bearing (1/2" ID, 1" OD)
ME4A4	Nut (5/8"-18)	ME11A1	Bearing (5/8" ID, 1 1/8" OD)
A57-3	Washer (1/2" ID, 1 1/4" OD)	A57-36	Sleeve (4 1/16" long, 2 1/16" ID)
A57-37	Sleeve Plate (1/2" ID)	A57-27	Puller (1/8"-27 taper thread)
A57-39	Sleeve Plate (4 1/16" ID)		

Dimensions, inches				Dimensions, inches			
Stock No.	O.D.	Small	Large	Stock No.	O.D.	Small	Large
A57-15	.339	.434	—	A57-18	.493	.559	—
A57-16	.430	.497	—	A57-25	.554	.684	—
A57-17	.492	.622	—				
A57-14A	Bushing Driver for Adaptors A57-8 through A57-20						
A57-8	.555	.622	—	A57-11	.851	.980	—
A57-19	.601	.668	—	A57-22	.907	1.046	—
A57-7	.618	.747	—	A57-12A	.919	1.027	—
A57-6	.678	.809	—	A57A13	.993	1.122	—
A57-5	.728	.856	—	A57-46	1.034	1.136	—
A57-24	.742	.997	—	A57-20	1.055	1.184	—
A57-10	.789	.918	—	A57-23A	1.101	1.230	—
Large Adaptors							
A57-45	—	1.250	1.125	A57-43	—	2.000	1.625
A57-42	—	1.406	1.187	A57-47	—	2.000	1.859
A57-48	1.206	1.500	—	A57-49	—	1 3/16 opening	—
A57-29	1.222	1.372	—	A57-51	—	1 7/32 opening	—
A57-40	1.367	1.625	—	A57-50	—	1 3/8 opening	—
A57-44	—	1.812	1.375				



Driver Sets

Bearing Race and Seal Driver Set

A1310 Bearing Race and Seal Driver Set. Collars fit most standard wheel bearing sizes. The three largest sizes fit most late-model 4 wheel drive vehicles.

Stock No.	Description	Stock No.	Description
A1306-1	Handle (5 3/4" long)	A1306-6	Collar (2.555" long)
A1306-2	Collar (1.565" long)	A1306-7	Collar (2.470" long)
A1306-3	Collar (1.750" long)	A1310-1	Collar (2.830" long)
A1306-4	Collar (1.965" long)	A1310-2	Collar (2.995" long)
A1306-5	Collar (2.325" long)	A1310-3	Collar (3.180" long)



WARNING

- Do not use HLE24 Hammer near liquid oxygen.
- Read additional safety precautions on pages M1 to M4.



Bushing / Seal Driver Sets



A157C



A158B



A257

A157C Standard Bushing Driver Set. Adaptors held on drivers with knurled nut. Small and medium drivers (A157-3 and A157-2) fit all smaller bushings (A157-6 thru A157-12); large driver (A157-1) fits remaining bushings (A157-13 thru A157-22). Set comes packaged in PB20 Plastic Box.

A158B Heavy-Duty Bushing Driver Set. Includes eight basic adaptors for servicing bushings on trucks, tractors, and buses. Adaptors are secured to threaded driver shaft by knurled nut. Industrial finish. Set comes packaged in PB34 Plastic Box.

A257 Complete Heavy-Duty Bushing Driver Set. Complements the A157C Set by adding 27 larger adaptors for transmission work, as well as many other automotive and industrial applications. Set is arranged in PB27 Plastic Box. Industrial finish.

A157C Set Components

Adaptor			Adaptor		
Stock No.	I.D.	O.D.	Stock No.	I.D.	O.D.
A157-6	3/8"	7/16"	A157-14	1 13/16"	1 15/16"
A157-22	1 5/32"	1 7/32"	A157-15	7/8"	1"
A157-7	7/16"	1/2"	A157-16	1 5/16"	1 1/8"
A157-8	1/2"	5/8"	A157-17	1"	1 1/8"
A157-9	9/16"	1 1/16"	A157-18	1 1/16"	1 3/16"
A157-10	5/8"	1 1/16"	A157-19	1 1/8"	1 1/4"
A157-11	5/8"	3/4"	A157-20	1 3/16"	1 5/16"
A157-12	1 1/16"	1 3/16"	A157-21	1 1/4"	1 3/8"
A157-13	3/4"	7/8"			
A157-1	Large Driver Handle				
A157-2	Medium Driver Handle				
A157-3	Small Driver Handle				
A157-4	Driver Nut, 5/16"-24				
A157-5	Driver Nut, 1/2"-20				

A158B Set Components

Adaptor			Adaptor		
Stock No.	I.D.	O.D.	Stock No.	I.D.	O.D.
A257-23	1 5/16"	1 7/16"	A257-27	1 9/16"	1 1 1/16"
A257-24	1 3/8"	1 1/2"	A257-28	1 5/8"	1 3/4"
A257-25	1 7/16"	1 9/16"	A257-29	1 1 1/16"	1 1 3/16"
A257-26	1 1/2"	1 5/8"	A257-30	1 3/4"	1 7/8"
A157-1	Large Driver Handle				
A157-5	Driver Nut, 1/2"-20				

A257 Set Components

Adaptor			Adaptor		
Stock No.	I.D.	O.D.	Stock No.	I.D.	O.D.
A257-23	1 5/16"	1 7/16"	A257-37	2 3/16"	2 5/16"
A257-24	1 3/8"	1 1/2"	A257-38	2 1/4"	2 3/8"
A257-25	1 7/16"	1 9/16"	A257-39	2 9/16"	2 7/16"
A257-26	1 1/2"	1 5/8"	A257-40	2 3/8"	2 1/2"
A257-27	1 9/16"	1 1 1/16"	A257-41	2 7/16"	2 9/16"
A257-28	1 5/8"	1 3/4"	A257-42	2 1/2"	2 5/8"
A257-29	1 1 1/16"	1 1 3/16"	A257-43	2 9/16"	2 1 1/16"
A257-30	1 3/4"	1 7/8"	A257-44	2 3/8"	2 3/4"
A257-31	1 13/16"	1 1 5/16"	A257-45	2 1 1/16"	2 1 3/16"
A257-32	1 7/8"	2"	A257-46	2 3/4"	2 7/8"
A257-33	1 15/16"	2 1/16"	A257-47	2 13/16"	2 1 5/16"
A257-34	2"	2 1/8"	A257-48	2 7/8"	3"
A257-35	2 1/16"	2 3/16"	A257-49	2 15/16"	3 1/16"
A257-36	2 1/8"	2 1/4"			
A157-1	Driver Handle, Large				
A157-5	Driver Nut, 1/2"-20				

A261M



A160M



A261M Heavy Duty Metric Bushing Driver Set. Includes an extra-large driver handle and adaptors in 40 to 80mm sizes. Packaged in PB117 Plastic Box.

Stock No.	Description	Stock No.	Description
A261M1	Adaptor (40-44mm)	A261M6	Adaptor (55-60mm)
A261M2	Adaptor (42-45mm)	A261M7	Adaptor (60-65mm)
A261M3	Adaptor (45-48mm)	A261M8	Adaptor (65-70mm)
A261M4	Adaptor (48-50mm)	A261M9	Adaptor (70-75mm)
A261M5	Adaptor (50-53mm)	A261M10	Adaptor (75-80mm)

A157-1	Large Driver Handle
A157-5	Driver Nut, 1/2"-20

A160M Standard Metric Bushing Driver Set. Includes three driver handles and adaptors in 10 to 42mm sizes. Packaged in PB118 Plastic Box.

Stock No.	Description	Stock No.	Description
A160M1	Adaptor (10-12mm)	A160M8	Adaptor (22-24mm)
A160M2	Adaptor (12-14mm)	A160M9	Adaptor (25-27mm)
A160M3	Adaptor (14-16mm)	A160M10	Adaptor (28-30mm)
A160M4	Adaptor (15-17mm)	A160M11	Adaptor (30-34mm)
A160M5	Adaptor (16-18mm)	A160M12	Adaptor (32-36mm)
A160M6	Adaptor (18-20mm)	A160M13	Adaptor (35-40mm)
A160M7	Adaptor (20-22mm)	A160M14	Adaptor (38-42mm)
A157-1	Large Driver Handle		
A157-2	Medium Driver Handle		
A157-3	Small Driver Handle		
A157-4	Driver Nut, 5/16"-24		
A157-5	Driver Nut, 1/2"-20		



YA2480

YA2480 Seal Driver Set. Includes 16 high-impact plastic adaptors for seals up to 3 3/8" in diameter. Three feature recessed adaptors for shielded sets. Includes A1306-1 Knurled Handle, A1306-1-1 Adaptor Mounting Bolt, and YA2480-17 Steel Back-up Washer.

Stock No.	Description	Stock No.	Description
YA2480-1	Adaptor (#1)	YA2480-9	Adaptor (#9)
YA2480-2	Adaptor (#2)	YA2480-10	Adaptor (#10)
YA2480-3	Adaptor (#3)	YA2480-11	Adaptor (#11)
YA2480-4	Adaptor (#4)	YA2480-12	Adaptor (#12)
YA2480-5	Adaptor (#5)	YA2480-13	Adaptor (#13)
YA2480-6	Adaptor (#6)	YA2480-14	Adaptor (#14)
YA2480-7	Adaptor (#7)	YA2480-15	Adaptor (#15)
YA2480-8	Adaptor (#8)	YA2480-16	Adaptor (#16)

Bushing / Oil Seal Puller and Driver

These transmission tools are designed to easily remove or replace transmission rear extension housing bushings and oil seals on most Ford, GM, Chrysler, and AMC automatic transmissions. Refer to the chart below for specifications and applications.

Bushing Puller. Jaws are inserted through the grease seal and between the bushing and shaft. Sliding tube secures jaw grip behind bushing. Turn screw with wrench to remove bushing seal.

Bushing Driver. Handle screws onto one end; bushing is placed on the other end and driven into shaft housing with a few light hammer blows.

Oil Seal Installer. Slide onto the driver head. Use to replace oil seals. Reversible.

S8672D



S8673C1



S8673B3



Puller No.	Driver No.	Seal Installer Only Stock No.	O.D., Inches	Depth, inches	Application
S8672D	S8673C1	S8673B3	2 3/4	1 15/16	Ford C-4 Series, GM 200, 350, and 375 Series



SRP4

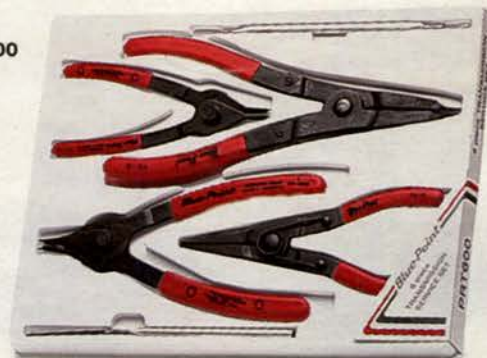


PR40

SRP400



PRT600



Snap Ring Pliers

SRP400 Snap Ring Pliers Set. Includes the following four snap ring pliers neatly arranged in a plastic tray.

SRP1A Snap Ring Pliers. For output shaft on GM transmissions. Serrated jaws are bent at a 90° angle. Has a 1/16" wide tip; measures 8 15/16" long.

SRP2 Snap Ring Pliers. 3/32" wide ends with 1/8" diameter dimple for snap rings with tabs. Jaws are angled at a 90°. 8 7/8" long. ASME/ANSI B107.19-1993 applies.

SRP3 Snap Ring Pliers. 3/32" wide straight tips and 1/16" thick ends. 8 7/8" long. ASME/ANSI B107.19-1993 applies.

SRP5A Snap Ring Pliers. Seven rivet action for high-leverage tip expansion. Straight tip ends, 5/32" wide, are dimpled for snap ring tabs. 10 1/8" long.

SRP4 Snap Ring Pliers. 3/32" wide ends with 1/8" diameter dimple for snap rings with tabs. Jaws are bent at a 90° angle. 14" long.

PR40 External Snap Ring Pliers. For replacing bearings on transmissions, shafts, and differential. Maximum jaw spread is 1 7/16". 8 3/4" long.

PRT600 Transmission Service Set. For Chrysler, GM, and Ford products.

PRT21 High-Range Seal Tool. 2 1/2" x 1/2" spring steel blade; 7 1/2" long.

PRT22 High-Range Seal Tool. .015" high-carbon wire loops on each end. 6 1/2" long.

SRPC3800 Convertible Retaining Ring Pliers. Straight .038" tips; 6 7/16" long.

SRPC7000 Convertible Retaining Ring Pliers. Straight .070" tips; 7 7/16" long.

PR15 External Snap Ring Pliers. Wide (1/16") tips are angled at a 90°. 8 3/4" long.

PR16 External Snap Ring Pliers. Wide (3/16") notched tips. 8 3/4" long.



WARNING

• Read additional safety precautions on pages M1 to M4.



Drive Line Transmission



General Service Tools

YA321 Sealing Cap Set. Five polyethylene caps are color coded to service all domestic and most import transmissions when the drive shaft is removed. Caps keep dirt out of the transmission and prevent fluid loss.

YA2340 Sealing Cap Set. Retain transmission fluid by sealing transmission and transaxles when drive shaft or drive axle is removed on most domestic and import vehicles. Side gear centering for Ford transaxles. Five caps cover a range of 1" to 2.180" (25.4 to 55.37mm). Segmented design prevents caps from slipping out of position.

YA322 Seal Driver Kit. Fifteen different drivers install front and rear transmission seals. Also includes a master driver. Each driver is numbered for specific transmission applications.

YA7244A Quick Connect/Disconnect Tool. For late-model Fords using push lock connectors on transmission cooler lines as well as on fuel lines. Diameter is 1 1/4".

XLE1012A Drive Line Fastener Wrench. Box end TORX® sizes are E10 and E12. Drive shaft must be removed when towing 1980 Corvette and 1/2, 3/4, and 1-ton GMC and Chevy trucks. Designed to access drive line fasteners. Also services AMC drive lines.

CPT110A Drain Plug Socket. 17mm, 6-point socket is for VW transmission drain plugs. 3/8" drive, 1" long.

S6161 External Hex Drain Plug Socket. 23mm, 6-point socket is for use on Mack midline series and Renault 6 cylinder 1982 to 1986. 1/2" drive. 1 1/2" long.

EPPV308A Automatic Transmission Pressure Gauge Set. Use on all major manufacturer domestic and import vehicles. Set includes two gauge assemblies for high and low pressure ranges plus nine adaptors to test a wide variety of domestic and import automatic transmissions. Four special fittings are also included for connection to hard-to-reach test ports in areas requiring a 45° or 90° angle. High pressure gauge assembly includes 3.5" diameter gauge and 10' flexible hose with fluid coupler. Low pressure gauge assembly includes 2.5" diameter gauge and 6' flexible hose with fluid coupler. Set includes comprehensive instruction manual with applications table and plastic storage case.

S5902 Oil/Transmission Plug Wrench. Box ends are 17mm, 6-point and 21mm, 12-point. Designed for VW transmission drain plugs. 10 1/4" long.



Seal / Bushing Installers and Removers

YA9348 GM Transmission Seal Remover/Installer. Removes and installs GM transmission shift selector shaft seals without draining the fluid. 5/8" drive size, 3/8"-16 UNC-2B thread. Remover bolt has a 9/16" head and 3/8"-16 UNC-2A thread.

YA9648 GM Transmission Seal Removal/Installation Tool. YA9648 Transmission Seal Remover/Installer. Applications on 1996 and later GM trucks and Astro vans with 4L60E and 4L80E transmissions.



ATS1001 Universal Bushing and Seal Driver Set. Includes nine bushing drivers and hardware to service most transmissions. Rubber O-rings on the bushing drivers secure the bushings onto the proper driver and eliminate damage to new bushings while being driven into position. Built-in stops ensure correct seating depth for bushings in GM 125, 200, and 350 Series Transmissions. Packaged in ATS1001-15 Red Plastic Box, complete with instructions.

ATS2200 Bushing Remover/Installer. Service extension housing bushings while in the car. Centers and holds the output shaft in proper position for assembly work.

Transmission Pump Pullers

CJ193 Transmission Pump Puller. Two are required for removal of front pump on GM, Ford, and Chrysler transmissions. Includes 1 1/4 lb. slide hammer and 3/8"-16 x 14" slide screw. Applications on most GM, Ford C-4, C-5 AOD (Automatic Overdrive), and Chrysler TF904-72 ON.

CJ193-1-1 Optional Adaptor. M10-1.5 male end is designed to work on Ford and Chrysler transmission pumps. 3/8"-16 female end screws onto slide screw of CJ193. 2 1/4" long.



Drive Shaft

Universal Joint Tools

CJ91D Universal Joint Bearing Press Set. For needle-type bearings on cars and trucks. Eliminates dangerous hammer and punch methods. Three bushing adaptors handle IDs of 31/32", 1 1/32", and 1 5/16".

UJT1 Universal Joint Bearing Press. Removes damaged or worn bearings. Eliminates dangerous hammer and punch method. L-brackets fit over bench vise jaws.



YA328A

Magnetic Angle Locator

YA328A Angle Locator. Precise, accurate tool to determine angle measurements. Ideal for checking drive shaft angle. Red degree indicator located behind numbers for exact reading of graduations. English and metric scales molded into base of tool in 1/8" and DM. Large 1 7/8" x 7/8" magnet inserted in base for secure retention.



CJ91D



UJT1

Clutch



General Service Tools

GA454A Spicer Clutch Adjusting Wrench. For internal adjustment of spicer angle spring and multiple lever clutches. Eliminates the need for prybars that could damage clutch parts. 15" long.

SP2031 Pilot Bearing Puller. Attaches to slide hammer shafts with 3/4"-16 or 5/8"-18 threads. Pressure screw adaptor is made of stress-resistant steel. Industrial finish.

SP2033 1/2" Gauge Tool. Use to measure the distance between the end of the release bearing and the clutch brake. Aluminum with a vinyl-grip handle for comfort and control.

YA7646 Ford Clutch Coupling Tool. Reach and disconnect the hydraulic clutch line from the clutch slave cylinder without damage to the coupling or clutch line. Applications on current Ford vehicles with hydraulic clutch, including: light duty trucks, Bronco II, Ranger, Explorer and 1989- later Thunderbird and Mercury Cougar with manual transmission and hydraulic clutch. Same as Ford No. T88T-70522-A.

A144A Flywheel Turner. Use when replacing clutch pressure plate. Turns flywheel to predetermined point that might be bypassed when "bumping" with starter. 12 1/8" long.

ATS2987 Automatic Transmission Clutch Spring Compressor. Use to compress clutch springs on most automatic transmission clutch units. Packaged in ATS2987-21 Plastic Case.

A37M Clutch Aligner Set. For vehicles with standard transmissions, including many import cars. Allows quick aligning for complete range of single disc clutches (16 collet sizes ranging from 0.465" to 1.181"). Packaged in PB21 Plastic Case.

A145 Clutch Aligner Set. Smaller companion to A37M. Includes five double-ended collets ranging in size from .578" to .810".

YA6100A Pilot Bearing Puller Set. Pick the mandrel/sleeve combination needed from this four-piece set for removing bushings/bearings with an ID of 12 to 16.5 mm. Mandrels and sleeves are color coded for easy match-up. Packaged in YA6100-10 Plastic Case.



WARNING

• Read additional safety precautions on pages M1 to M4.



Drive Line Front Wheel Drive



Boot and Joint Tools

YA3050 Boot Clamp Pliers. For earless-type clamps, including those found on late model GM inboard CV universal joints.

YA3080 Boot Clamp Pliers. For ear-type clamps. Sturdy enough for ear-type clamps, including late model GM outboard CV universal joints. Use with a torque wrench to meet required specifications.

YA3085 Boot Banding Tool. For reinstallation of Band-it® or Band-it Jr.® boot bands.

KD3191 Joint Clamp. Use to wind up the free end of the clamping band. Holds tension until band can be clipped down. For use with Band-it® style free-end clamps, roll band, and clips or Band-it Jr.® style preformed clamps. A socket with ratchet is used to turn the actuating screw for adjustment.

CV9040 CV Joint Assembly Removal Tool. Use on most domestic and imported vehicles. Quickly separates the CV joint from the axle. Helps prevent damage to joints.

CVBOOT1 CV Boot Installer. Air-assisted boot installer for CV Front Wheel Drive boots. Tool stretches the boot, allowing it to slip over the trunion for rapid installation and reduced fatigue.

CVBOOT2 Heavy Duty CV Boot Installer. Heavy duty, all-metal, air-assisted boot installer is fully adjustable to handle any size CV boot. Ten adjustable fingers evenly expand the boot and help eliminate the chance of tearing the boot. Designed for shops that perform high volume replacement of CV boots.

Flanged Sockets

YA8941 Flanged Socket. 1/2" drive for use on Mercedes Benz models 107, 114, 115, 116, and 126 axles with CV joints. Use on rear axle flange grooved nut when replacing axle bearing or axle seal.

YA8940 Flanged Socket. 3/4" drive for use on Mercedes Benz models 107, 114, 115, and 116. For removing drive pinion shaft flange grooved nut of the differential. Brass insert helps prevent damage to pilot shaft.

YA8942 Flanged Socket. 1/2" drive for Mercedes Benz drive shaft flange nuts. Applications include K4A025 and K4B050 Transmissions.

YA8943 Flanged Socket. 1/2" drive for servicing Mercedes Benz drive shaft flange nuts. Applications include K4C025, W4B025, and K4A040 Transmissions. Brass insert helps prevent pilot shaft damage.



Half-Shaft Removal Tools

HST100 Half-Shaft Removal Tool Set. Set includes HST100-1 and HST100-2 Half-Shaft Removal Tools.

HST100-1 Half-Shaft Removal Tool. 0.900" diameter half shaft removal tool. Easily removes half-shaft on most domestic and import front wheel drive vehicles. Removes stick half-shafts with gentle tap from brass mallet.

HST100-2 Half-Shaft Removal Tool. 0.940" diameter half shaft removal tool. Easily removes half-shaft on most domestic and import front wheel drive vehicles. Removes stick half-shafts with gentle tap from brass mallet.

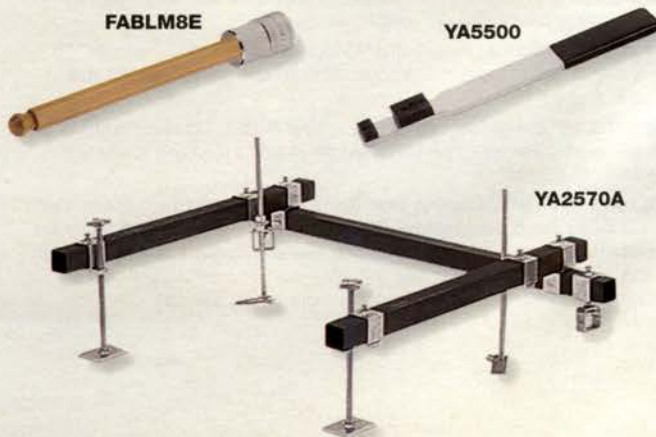


Specialty Service Tools

FABLM8E Metric Hex Ball Driver. 8mm hex, 3/8" drive. For 1978 and later Omni and Horizon standard transmission drive axle flange bolts.

YA5500 Flywheel Wrench. For domestic and import vehicles. Useful on cars where access is too limited for using spanner type wrenches. Slip over the rim of the flywheel and turn in the desired direction. 8 13/16" long. Red, vinyl-covered handle.

YA2570A Engine Hanger. For vehicles with MacPherson struts. Supports/holds the engine in position when the transmission, transaxle, or engine mounts are disconnected. Ensures engine remounting position. Raise or lower engine via the foot adjusting screws.



Four Wheel Drive

YA2220



Axle Nut Sockets

S8695C 4-Lug Socket. 1/2" square drive. For 1/2 ton vehicles with manual locking nuts. Use on front wheel bearing retaining nut on Dana 44 Series Axle used on 1959 and later GM, Ford, Dodge, and AMC. 3 3/4" long. Industrial finish. RAILROAD APPLICATIONS: Use to install or remove the point detector bushing found on WABCO-M23B switch machines.

ANS1933A Metric Socket. 59mm (6 pt.) For 1/2 ton vehicles with automatic locking nuts. Designed for late model Ford vehicles. 3/4" square drive, 59mm nominal size. Industrial Finish.

S6146 4-Lug Socket. For front wheel bearing retaining nut on 3/4 ton vehicles with Dana 60 Series Axle used on GM, Ford, and Dodge trucks. 1/2" square drive. 3 3/4" long. Industrial finish.

S6109A 6 lug Socket. For front wheel bearing retaining nut on 3/4 ton vehicles with heavy duty suspension. Designed for use on GM, Ford, and Dodge trucks with Dana 70 Series Axle. 1/2" square drive. 3 3/4" long. Industrial finish.

Spindle Puller

YA2220 Spindle Puller. 3 step threaded (1 1/2", 1 5/8", and 2") for most front spindles on four-wheel drive vehicles. Use with 1/2"-20 and 5/8"-18 slide hammers.

S8695C



ANS1933A



S6146



S6109A



Differential

Differential Service Tools

A176 Differential Adjusting Wrench. For most differentials where 9/32" and 17/32" adjustment nuts are found. Also useful on transmissions, steering gears, and some water pumps where adjustable spanner wrench is required. 10" long.

M3548A Diesel Pinion Nut Impact Socket. Use on pinion nuts only. Wrench size is 2 3/4", drive size is 3/4", handle end has a 1 9/16" OD, socket end is 2 3/8", bolt clearance is 2 3/4", opening depth is 1 3/16", and length is 3 3/4".

A176



M3548A



Wheel / Axle Pullers

Wheel / Axle Hub

4567SH



YA498



CJ129



Wheel / Axle Hub Pullers

CJ129 Universal Wheel Hub Puller. Remove front wheel/axle assembly on all front wheel drive Ford, GM, Chrysler, and most imported cars. Also use to remove rear brake drums on tapered axles such as those found on AMC and Chrysler. Removable anvil fits over 1 1/8" hex on pressure screw. Includes adjustable legs.

4567SH Bolt-on Axle Shaft Puller. Breaks axles loose on Ford and GM cars and light trucks with flange-type axles. Optional adaptors allow use on most cars. Includes housing, three removable jaws, 10 lb. slide hammer, and 1 1/2"-12 x 23 1/2" slide screw with a 1 1/2" hex. Fits any bolt pattern with a 4" to 7" bolt circle.

YA498 Front Wheel Drive Hub Puller. For most domestic and import vehicles with independent front suspension. Pressure screw size is 5/8"-18 x 5 1/2".

CJ1250



Slide Hammer and Shaft

CJ1250 12 lb. Slide Hammer. Designed to pull rear axles. Slide hammer is approximately 25 1/4" with a 5/8"-18 thread. The CJ1250 can be used with the YA498 Hub Puller.

CJ1275 Slide Hammer Shaft. Same length as CJ1250. Can be used with most popular pressure screw-type axle pullers with like thread sizes. 5/8"-12 Thread.



WARNING

• Read additional safety precautions on pages M1 to M4.



Wheel / Axle Pullers Wheel Bearing



YA9240



YA9310



YA9321



YA9360



YA9370



YA9390



YA9471

Wheel Bearing Pullers

Designed to remove or install wheel bearings on the car without altering the alignment, removing the strut, or using a slide hammer to remove the hub.

YA9240 Wheel Bearing Puller. Use on Camry (1986-91), Celica (1986-99), Corolla (1987-2000), Tercel (1987-99), Paseo (1992-97), Lexus ES250 (1990-91) and Chevy Nova (1985-88).

YA9241 Wheel Bearing Puller. Use on Camry (1992-2000), Avalon (1995-2000), Sienna (1998-2000), Solara (1999-2000) and Lexus ES300 (1992-2000). Use with YA9240.

YA9310 Wheel Bearing Puller. Use on Escort (1983-2000), Tempo/Topaz (1984-94), Taurus/Sable (1986-95), Lincoln Continental (1988-94), Probe (1989-97), Thunderbird/Cougar (1989-97), Tracer (1991-99), Lincoln Mark III (1993-98), Windstar (1995-2000), Contour/Mystique (1995-2000) and Cougar (1999-2000).

YA9321 Wheel Bearing Puller. Use on all "S" series Saturns (1991-2001).

YA9360 Wheel Bearing Puller. Use on Stanza (1985-92), Stanza Wagon (1985-87), Maxima (1985-99), Pulsar (1987-90), Sentra (1987-99), Axxess (1989-91), NX2000 (1991-93), Altima (1993-2000), Infiniti G20 (1991-2000) and Infiniti I30 (1996-99).

YA9370 Wheel Bearing Puller. Use on 626 (1988-2000), MX6 (1988-97), 323 (1990-94), Protégé (1990-2000) and MX3 (1992-96).

YA9390 Wheel Bearing Puller. Use on Charger/Turismo (1979-87), Caravelle (1985-88), Horizon, Omni, Reliant, Aries, Lebaron, 600, New Yorker, E Class (1978-90), Laser, Daytona, Voyager, Caravan (1984-90), Lancer (1985-90), Sundance (1987-90), Acclaim/Dynasty (1989-90) and Neon (1995-2000).

YA9430 Wheel Bearing Puller. Use on Civic (1973-2000), Accord (1976-2000), Prelude (1979-2000), CRX (1984-91), Del Sol (1992-97), Odyssey (1995-98), CRV/CL (1997-2000), Integra (1986-2000), Vigor (1992-94), TL 2.5L (1997-98) and TL 3.2L (1999-2000).

YA9431 Wheel Bearing Puller. Use on Acura Legend (1986-90). Use with YA9430.

YA9435 Wheel Bearing Puller. Use on all Audi models (1973-95) except 100LS.

YA9471 Wheel Bearing Puller. Use on Sephia (1994-2000) and Spectra (2000).

YA9550 Wheel Bearing Puller. Use on all VW models (1975-97) except VW with ABS and Eurovan.

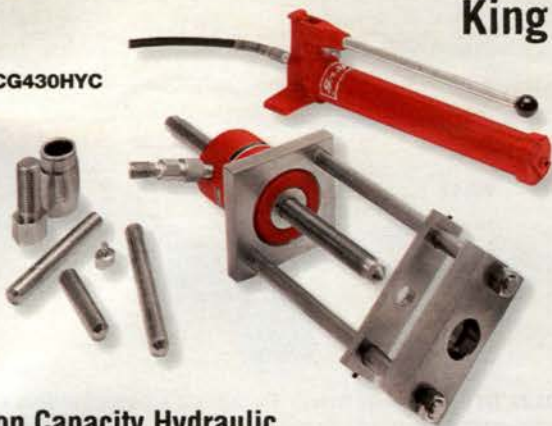
YA9551 Wheel Bearing Puller. Use on all VW Eurovan (1993-2000). Use with YA9550.

YA9415 Wheel Bearing Puller Set. Includes YA9310, YA9321, and YA9390. See those pullers for applications.

YA9500 Wheel Bearing Puller Set. Includes YA9240, YA9360, YA9370, and YA9430. See those pullers for applications.

King Pin Pullers Wheel / Axle Pullers

CG430HYC



20-ton Capacity Hydraulic

CG430HYC Hydraulic King Pin Press Set. CG420A Hydraulic Ram and Pump delivers up to 20 tons of controlled power to remove stubborn king pins on large vehicles with king pin diameters up to 1 1/4". Also removes brake shoe anchor pins on trucks. Has wide side arm construction. Uses three pilots: 7/8" x 4", 7/8" x 6", and 7/8" x 8". Includes two guide bushings: 1 3/8" x 7/8" and 1 3/8" x 3 1/4".

CG430HYC2S King Pin Press Set. This is the CG430HYC Set with CG420A2S Ram and 2-Stage Pump.

CG430B King Pin Press Set. This is the CG430HYC Set less the hydraulic power components.

35-ton Capacity Hydraulic

CG730HY Hydraulic King Pin Press. For use on large trucks and semi-trucks with king pin diameters from 1" to 2". Similar to CG430HYC except it uses 35-ton hydraulic power components (CG720 Ram, CG420-2A Pump, CG420-3-1 Hose, and CG420-4 Quick Coupler). Includes three guide bushings and seven pilots.

CG730HY2S King Pin Press Set. This is the CG730HY Set with CG420A2S Ram and 2-Stage Pump.

CG730 King Pin Press Set. This is the CG730HY Set less the hydraulic power components.

King Pin Puller Set Components

King Pin Press No.	Pressure Screw	Yoke Adaptor	Work Head	Yoke Post (2)	Post Nut (2)	Pilot Guide	1 3/8" x 7/8" Bushing	1 3/8" x 3 1/4" Bushing	Expansion Plug	Hydraulic Power Pack	7/8" Diameter Pilots
CG430HYC	CG430-1	CG430-2	CG430-3	CG430-4	CG45-2	CG430-6	CG430-7	CG4308	CJ91-2A	CG420A	CG230-8 (4") CG230-9 (6") CG230-10 (8")

CG430HYC2S This is the CG430HYC Set with CG420A2S Ram and 2-Stage Pump.

King Pin Press No.	Pressure Screw	Yoke Adaptor	Work Head	Yoke Post (2)	Post Nut (2)	Pilot Guide	1 15/16" Bushing	1 9/16" Bushing	1 13/16" Bushing	Hydraulic Power Pack	Pilots
CG730HY	CG730-1	CG730-2	CG730-3	CG730-4	CG750-7	CG730-6	CG730-7	CG730-8	CG730-9	CG420A	CG730-10 (2 1/4") CG730-11 (4 1/2") CG730-15 (6") CG730-12 (6 3/4") CG730-13 (9") CG730-16 (9 1/2") CG730-14 (11 1/4")

CG730HY2S This is the CG730HY Set with CG420A2S Ram and 2-Stage Pump.

King Pin Press No.	Spread, inches	Reach, inches	Pressure Screw	Screw Yoke	Screw Yoke Post (2)	Post Nut (2)	General Use Head	1 1/2" Bushing	1" Bushing	Pilots
CG212A	3	6 1/2	CG21A	CG21B	CG21D	CG21J	CG21P5	CG21P3	CG21P2	CG21E Long (3/4" dia.) CG21F Short (3/4" dia.) CG21G Long (5/8" dia.)

King Pin Press No.	Spread, inches	Reach, inches	Pressure Screw	Screw Yoke	Screw Yoke Post (2)	Post Nut (2)	General Use Head	1 1/4" Bushing	7/8" Diameter Pilots	Adaptor
CG230A	5 1/8	12 3/16	CG230-1	CG230-2	CG230-4	CG230-5	CG230-3	CG230-6	CG230-7 (2") CG230-8 (4") CG230-9 (6") CG230-10 (8")	CG230-11

Manual Sets for 1/2-ton Pick-up Trucks

CG212A King Pin Press Set. For vehicles with king pin diameters less than 7/8". Head swivels to adapt to almost any 1/2 ton pick-up truck. Pilots and guide bushings adapt to different size king pins. Spread: 3". Reach: 6 1/2". Includes two bushing guides (1" and 1 1/2"), two long pilots (5/8" and 3/4" diameter), and one short pilot (3/4" diameter).



Manual Sets for 3/4-ton and 1-ton Pick-up Trucks

CG230A Truck King Pin Press Set. Applications for heavy trucks, buses, and vans having king pins larger than 7/8", including Ford 3/4 ton and 1 ton trucks and vans. Spread is 5 1/8", while reach is 12 3/16". Includes a 1 1/4" bushing guide, adaptor, and four 7/8" diameter pilots 2", 4", 6", and 8".



WARNING

• Read additional safety precautions on pages M1 to M4.



Wheel Alignment Tie Rod



Tie Rod Adjusting Tools

WA10A Tie Rod Adjusting Tool. For small and medium cars. 9" long.

WA11A Tie Rod Adjusting Tool. For large cars and light trucks. 9" long.

WA12A Tie Rod Adjusting Tool. For large cars and light trucks. 1/2" square drive, 3 3/4" long.

WA13A Tie Rod Adjusting Tool. For compact and medium cars. 1/2" square drive, 3 3/4" long.

WA16 Tie Rod Adjusting Tool. For large trucks. 1/2" square drive, 4 7/64" long.

WA17 Tie Rod Adjusting Tool. Use on 1 7/8" sleeves on full-size 3/4 and 1-ton pick-ups, including Ford Super Duty. Designed to permit 360° rotation of adjusting sleeve, even in tight quarters. Use with 1/2" square drive ratchet or breaker bar. Chrome finish. 4 3/4" long.

YA2222 Tie Rod Adjusting Wrench. For domestic and import vehicles with rack-and-pinion steering using tie rods with knurled or 12mm hex gripping sections. Has spring-loaded jaws and a comfort-grip handle. 10 1/2" long.

YA2224 Tie Rod Adjusting Wrench. Similar in design to YA2222 but for 10.5 to 12mm diameter tie rods such as those found on Ford Escort, GM Geo, and smaller Nissan vehicles with rack-and-pinion steering. Has spring-loaded jaws and a comfort-grip handles. 9 1/2" long.



Tie Rod Removal/Installation Tools

YA3000A Inner Tie Rod Tool. Designed to remove tie rods lacking a full hex on the socket end. Removable crowfoot adaptors are placed on hex of tie rod. Tool then engages crowfoot for removal or installation of tie rod. Includes crowfoot adaptors in 1 3/16", 1 1/4", 1 5/16", 1 7/16", and 33.6mm sizes.

WA14A Tie Rod End Socket. For removing tie rod ends. Fits most cars and some trucks. U-shaped opening measures 1 3/8" x 3/4". Use with 1/2" square drive handles. 1 15/16" ID, 2 1/4" long.



WA15 Tie Rod End Socket. Similar to WA14A. For tie rod servicing on most any truck in the Class 2 thru 6 range. U-shaped opening measures 1 7/8" x 15/16". Use with 1/2" square drive handles. 2 1/2" ID, 2 7/8" long.

WA800 Heavy-Duty Truck Tie Rod Socket. Use on most Class 7 and 8 heavy-duty trucks with 9000 to 20,000 lb. axles. U-shaped slot measures 1 7/8" x 1 1/2". Inside diameter is 3". Overall length is 3 1/2".



Toe Adjustment Tools

YA8835 GM Toe Adjustment Wrench. Use to set toe on 1982 and later GM "J" cars. 1/2" square drive enables use with an extension to reach and turn adjustment knob. 19mm wrench size.

YA9065 Ford Rear Toe Adjustment Wrench. Use to set rear toe adjuster cams on Ford Taurus and Mercury Sable station wagons from 1986 to 1995. Use with 1/2" drive extension.

YA9475 Rear Toe Adjustment Wrench. Use on 1986 and later Ford Tempo and Taurus and Mercury Topaz and Sable. Eliminates clearance problems when making rear toe adjustments. Each end of wrench is offset 36°.

WA822 Rear Toe Adjusting Set. Includes two push-pull tools. Adjust rear wheel setting on 1980 and later "E" body Riviera, Toronado, and El Dorado cars. Has an expansion range of 12 1/2" to 15 1/2". One arm is grooved to indicate right-hand thread.





A204

Ball Joint/Tie Rod Separators

Stock No.	Jaw Opening, inches	Length, inches
A204	5/8	12
A200	13/16	18
A201	1	12
A203	1 1/4	12



S6302A



S9365B



S9613

Ball Joint Sockets

S6302A Ball Joint Socket. For compact Chrysler cars. 3/4" square drive. Wrench size is 1 51/64", length is 3 5/8".

S9365B Ball Joint Socket. For medium-size Chrysler cars. 3/4" square drive. Wrench size is 1 59/64", length is 2".

S9479A Ball Joint Socket. For Chrysler pick-ups and vans. 3/4" square drive. Wrench size is 2 9/64", length is 2".

S9613 Ball Joint Socket. For use on 4-5B axles such as those found on Dodge, Ford, Chevrolet, GMC, and International 4 wheel drive trucks. Adjusts the sleeve in the top of the yoke on the front suspension. 1/2" square drive, 1" OD, 2 1/8" long.



CJ76D

Ball Joint Presses

CJ76D Ball Joint Press Set. For pressed in lower ball joints on 1971 and later GM cars and trucks including S10, C20, and C30 applications.

CJ76D10 Ball Joint Press Assembly.

CJ76D101 Yoke. 9 15/16" long with a 6 1/2" throat opening.

CJ76D102 Pressure Screw. 8 3/32" long with 7/8" hex and 1"-8 UNC thread.

CJ76D103 Pressure Pad. 1 5/8" D x 1 13/16" L.

Stock No.	Adaptor Type	I.D./O.D., inches	Length, inches
CJ76D3	Medium Receiver	2 9/16 - 2 7/8	1 3/4
CJ76D4	Medium Installer	2 9/16 - 2 7/8	25/32
CJ76D5	Large Receiver	2 23/32 - 3	2 1/8
CJ76D6	Large Receiver	2 23/32 - 3	7/8
CJ76D7	Remover	1 7/32 - 2 1/8	1
CJ76D8	Small Installer	2 - 2 3/16	7/8
CJ76D9	Small Receiver	2 - 2 3/16	1 23/32

Shock Absorber Sockets

Stock No.	Square Drive, inches	Wrench Oval Width	Wrench Oval Diameter	Length, inches
A137	3/8	1/4"	5/16"	29/32
A138	3/8	15/64"	2 1/64"	29/32
A139	3/8	6 mm	8 mm	29/32
A135	1/2	15/64"	2 1/64"	1 5/8
A136	1/2	1/4"	5/16"	1 5/8



A137

Shock Absorber



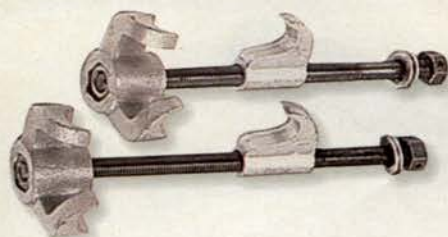
WARNING

• Read additional safety precautions on pages M1 to M4.



Wheel Alignment

Strut



YA629



WA92

MacPherson / Coil Spring Compressors

YA629 MacPherson Spring Compressor. Hooks engage spring, which can be compressed by turning hex nut. For use on MacPherson strut springs under 6" in diameter. Do not use on GM "A," "J," or "X" body cars.

WA92 Coil Spring Compressor. Holds coil spring at desired tension for removal of other parts. 11" screw. Note: When using WA92 Coil Spring Compressor, liberally lubricate threads with an anti-seize compound.



WA7500



YA9260

Ford and GM Strut Tools

YA9260 GM Front Strut Cartridge Tool Set. Removes and installs the front oil or gas-filled strut cartridge on 1988 and later GM W-platform cars. Works on both manufacturer's stock oil-filled shocks and gas-filled aftermarket shocks.

YA9260-1 Strut Cartridge Nut Wrench. Strut cartridge nut wrench from YA9260.

YA9260-2 Strut Jounce Bumper Wrench. Strut jounce bumper wrench from YA9260 Set.

WA7500 GM Strut Cartridge Tool. WA7500 GM Strut Cartridge Tool. Replaces the strut cartridge through the body shock tower on GM-10 Series ("W" Car) vehicles. Includes 1988 and later Pontiac, Grand Prix, Oldsmobile Cutlass and Buick Regal; 1989 and later Chevrolet Lumina.



YA333A

Carbide Cutters

YA333A Includes three carbide burrs for making alignment adjustment on MacPherson struts. Double-cut design. 1/4" shank diameter, 1" cut length. Includes YA333A4 Kit Bag.

Stock No.	Head Diameter, inches	Shank Length, inches
YA333A1	1/4	1
YA333A2	3/8	2
YA333A3	1/2	2

VW/Audi Strut Nut Sockets

YA8730 VW/Audi Strut Nut Socket. For late-model front wheel drive vehicles to remove the top strut retaining nut.

YA8730



Caster Camber

Wrenches

Metric Combination Wrenches. Long-handle design for access.

OEXLM17B 17mm **OEXLM18B** 18mm **OEXLM19B** 19mm

YA6140 Caster Camber Adjustment Wrench. Use on 1997 and later Dodge Dakota and 1998 and later Dodge Durango 2-wheel drive trucks. Caster/camber adjustment locking nuts are not easily accessed from the engine compartment as the exhaust manifold blocks the adjusters. This 7/8", 12-point wrench will easily adjust camber and caster by accessing adjustment nuts through the wheel well. Overall length of 23 3/4" (603.2mm). Do not use on 4-wheel drive trucks.

OEXLM18B



YA6140



Service Tools Wheel Alignment



General Service Tools

SIML160 Socket. Use for removing or replacing fuel tank retaining strap nuts. Also has applications on emergency brake adjustment nuts and stabilizer retainers. 1/2" square drive; 1/2", 6-point wrench opening. 5" long. For adjustment nuts, plus some stabilizer bars. Also, GM and some other gas tank nuts. 1/2", 6-point, 1/2" drive. Industrial finish. 5" long.

1658B Pinch Bar. 16" long.

2420 Pinch Bar. 20" long.

2430B Pinch Bar. Pinch bar has a tapered point on one end and a chisel-type edge on the other.

TC90A Tail Pipe Cutter. Handles on-the-car cutting from 3/4" to 3 1/2" diameter. Sixteen link cutter chain is 12" long. Threaded shaft with cross-piece provides elasticity to help prevent chain wheels from breaking. Ideal for cutting the strut assembly to enable servicing of the strut cartridge.

TC90A1 Chain Assembly. Includes one wheel and one roll pin.

BF620B Rubber-Head Mallet. Solid rubber head is 3 3/4" long and 2 1/4" in diameter. 11" hardwood handle. Ideal for replacing hubcaps, bodywork, etc.

WA96A Steering Wheel Holder. Firmly holds steering wheel in position when setting toe angle. Has a trigger-controlled mechanism and a thumb lock release.

GCP10 Grease and Dust Cap Tool. Tapered jaws of tool fit behind the crimped edge of grease cap. One handle is designed for prying hub caps loose.

B240B Brake and Accelerator Pedal Jack. Holds throttle at a constant RPM. Easily adjusts to desired length. Adjustment screw fine tunes desired RPM. Rubber tip keeps the tool firmly positioned on the accelerator pedal. Overall length of 40" (102cm). Can also be used as a pedal depressor.

STEERING15 Front End Alignment Steering Wheel Level. Ensures a level steering wheel after the alignment procedure. Customers use sight and feel to determine alignment satisfaction. Helps avoid costly comebacks for unusual steering wheel positions. Rugged, lightweight and simple to use. No adjustment necessary. Fits domestic and import cars and light trucks. Installs quickly.

YA6640 Steering Wheel Holder/Pedal Depressor Kit. Saves time and money by eliminating the need for two technicians to do one job. Works with most domestic and import vehicles. Applications include toe-in/toe-out work, steering wheel centering, tuneups, brake jobs, fuel injection cleaning, alternator testing, clutch work, engine diagnosis and setting RPM. Coated to prevent slipping or marring. Fine adjustment can be made with hex adjuster. Locks in place by putting pressure against seat. Easy to assemble, install and release. Includes plastic storage case.

General Service Tools Tire and Wheel



Rim

BH101 Tire Hammer. 6 lb. Ideal for installing rim rings. Has an 18" fiberglass handle with a vinyl grip.

BH101-2R Replacement Handle. For BH101. 18".

TR100 Rim Tool. For use on split rims and rim lock rings. One end is angled; the other is straight. 19 1/8" long with 9/16" and 5/8" wide ends.

TR102 Rim Tool. For drop center rims. 18" long with a 1 3/8" wide end.

Cotter Pin Pullers

388BCP Diagonal Cutter. This high-leverage diagonal cutter pulls cotter pins with ease. 1 1/8" jaw width and 1 3/16" jaw length. 7 3/4" long. Vinyl grips.

CP3B Cotter Pin Puller. Make short work of pulling even large pins. Heat-treated shank provides maximum strength. Has a screwdriver-style handle. 8" long.

S9094B Cotter Pin Puller. Pins are removed by hitting anvil sharply. Side handle ensures a firm grip. Tough steel hook is replaceable. 10" long.

S9094A2X Replacement Hook and Rivet Set. For S9094B.

CP9 Cotter Pin Puller. The 38° angle end pries the cotter pin loose and the 105° angle end pulls it out. 10" long.

CP1 Cotter Pin Pliers. CP1 Cotter Pin Pliers. Removes cotter pins up to 1/8" in diameter.

Seal

S6129 Seal Puller. Designed to pull wheel bearing or other small seals. 7" long. Industrial finish.

YA105 Seal Puller. For removing rubber seals. Two different tips are designed to reach in and fit nearly all seal applications. 12 5/8" long.



WARNING

- Do not torque WA92 Coil Spring Compressor over 30 ft. lb.
- Read additional safety precautions on pages M1 to M4.



Tire and Wheel



Mallets

BF620B Rubber-Head Mallet. Solid rubber head is 3 3/4" long and 2 1/4" in diameter. 11" hardwood handle. Ideal for replacing hubcaps, bodywork, etc.

BF623 Soft Blow Mallet. Designed to reduce marring and denting. Use in assembly applications and on all types of surfaces including metal, glass, plastic and wood. Special polymer head resists dynamic fatigue, creep and compression set, even at extreme temperatures.



Dust Cap

GCP10 Grease and Dust Cap Tool. Tapered jaws of tool fit behind the crimped edge of grease cap. One handle is designed for prying hub caps loose.



Truck Wheel Pan

TWP8 Truck Wheel Pan. Helps prevent messes and spills during wheel repair. Fits rims with 13 3/4" (349mm) inside diameter or larger for use on most large trucks and trailers. Holds 88 oz. of oil. Pan will not warp if oil is warm. Compartment above handles holds hub nuts so they don't get lost.

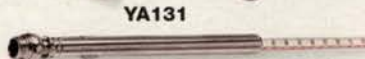
Tire Pressure Gauges



YA206



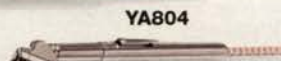
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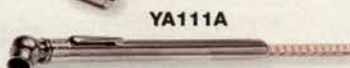
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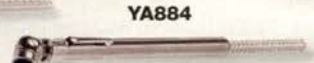
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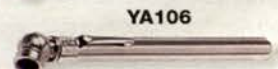
YA804



YA111A



YA884



YA106



GA315

Tire Pressure Gauges

YA206 "Master's Choice" Pressure Gauge. Calibrated in 1 PSI increments from 10 to 50 PSI and in 5 kPa increments from 75 to 325 kPa. Has a highly polished lacquer brass finish and black indicating bar with gold markings. Includes pocket clip and gift box. 5 1/2" long.

YA131 Pressure Gauge. Calibrated in 1 PSI increments from 10 to 50 PSI and in 25 kPa increments from 75 to 325 kPa. Straight head. Chrome plated. 5 1/2" long.

YA111A Pressure Gauge. Calibrated in 2 PSI increments from 20 to 100 PSI and in 10 kPa increments from 150 to 800 kPa. Chrome plated. 5 3/4" long.

YA804 Pressure Gauge. Calibrated in 2 PSI increments from 20 to 120 PSI and in 10 kPa increments from 150 to 800 kPa. Dual foot. Chrome plated. 5 3/4" long.

YA106 Pressure Gauge. Calibrated in 1 PSI increments from 10 to 50 PSI in black markings and in 5 kPa increments from 75 to 325 kPa in red markings. Has a pocket clip.

YA884 Low-Pressure Gauge. Calibrated in 1/2 lb. increments from 1 to 20 PSI. For lawn and garden equipment, ATVs, snowblowers, etc. 5 1/2" long.

GA355 Tire Gauge. Measures from 10 to 150 PSI. Dual-foot design: the straight foot is well-suited for use on Budd truck-style tires and the 30° angle reverse foot is helpful in hard-to-reach areas. Includes hanging hook. Chrome plated. 12" long.

GA315 Air-Liquid Pressure Gauge. Calibrated in 1 PSI increments from 5 to 45 PSI. Spring retracts into gauge, causing pump action to expel tire liquid. Has a pocket clip. 5 15/16" long.

GA246 High-Pressure Gauge. Calibrated in 2 PSI increments from 10 to 150 PSI. Includes a hanging ring. Dual foot. 13" long.

General Service Tools

LSR1000A



HCH1A



Hubcap

LSR1000A Wheel Lock Removal Socket Set. Easily removes most lug nuts and wheel locks on most domestic and import passenger vehicles and light trucks. Use with hand driver or impact wrench. Some sockets in set cover specific GM, Ford and Chrysler applications. Set includes 11 sockets, extension and extractor punch in plastic storage case.

HCH1A HubCap Remover/Installer. Has a wide-angled prying end for removing hubcaps and a built-in mallet for replacing them. Comes with a comfortable, screwdriver-style handle. 16" long.



Wheel Chocks

YA9020 Wheel Chocks. Heavy-duty truck chocks are connected by a 10' nylon rope and measure 8" wide and 8" high overall. Nonslide design.

WR100 Wheel Chocks. Restrict vehicle movement during test operations. Handles tire diameters up to 27". Clamps tire between two adjustable, triangular ribbed rubber chocks. Set of two. U.S. Patents 4,854,803 and 4,690,605 apply.

Tire Pressure Gauges Tire and Wheel



TPGF60



YA243A



YA258



TPG160



TPG60



GA477A



TPIF160

Dial-type Pressure Gauges

YA243A Dial-Type Pressure Gauge. Calibrated in 1 PSI increments from 0 to 100 PSI. Includes 2" dial face, rubber gauge guard, and a full-geared brass movement with a bronze bourdon tube. Can be used on tractor tires containing non-freeze solution without the need to wash or oil after use. 14" hose with push button releases air to exact pressure.

YA243A100 Replacement Hose Assembly. For YA243A.

GA477A Automatic Pressure Gauge. Calibrated in 2 PSI increments from 12 to 120 PSI. Has a dual-foot chuck and a 12" hose.

GA479 Replacement Gauge Cartridge. For GA477A.

YA258 Pressure Gauge/Inflator. For heavy-duty and dual-wheel truck tire inflation. 2" diameter gauge is calibrated in 5 PSI increments from 0 to 160 PSI. Includes bleeder button for pressure reduction, large activating lever, 12" rubber hose with swivel, and dual-foot air chuck.

TPGF60 Dial-Type Pressure Gauge. Features include flexible 11" hose between gauge and chuck for hard to reach tire valves, large 2" dial with 5 to 60 psi scale, swivel angle chuck and push button valve to bleed to desired pressure. Needle holds reading until released. Durable steel case gauge has a full geared, solid brass precision movement with bronze bourdon tube. Bourdon tube is not affected by changes in temperature, humidity or altitude. Black rubber guard protects gauge.

TPG60 Basic Tire Pressure Gauge. Features include large 2" dial with 5 to 60 psi scale, straight chuck and push button valve to bleed to desired pressure. Needle holds reading until released. Durable steel case gauge has a full geared, solid brass precision movement with bronze bourdon tube. Bourdon tube is not affected by changes in temperature, humidity or altitude. Black rubber guard protects gauge.

Digital Tire Pressure Gauge

Microprocessor-controlled pressure gauges deliver accurate readings use after use. Seven pressure samples are taken at 1-sec intervals, with the peak pressure reading being retained. An audible signal sounds when sampling is complete. Digital display shows pressure reading for 10 sec. All gauges feature auto shutoff and low-battery indicator. Includes tire valve remover and tire tread depth gauge built into handle plus a leather belt holster.

EEPV501AR Digital Tire Pressure Gauge. 0 to 99.9 PSI. Red handle.



EEPV501AR



WARNING

• Read additional safety precautions on pages M1 to M4.



Tire and Wheel Air Chucks / Valve Tools



Air Chucks

GA356 Dual-Foot Air Chuck. 1/4"-18 female NPT with 5/8" hex nut. The straight foot works well on Budd-style wheel rims; the 30° angle reverse foot is helpful in limited-access situations. 6 1/2" long.

GA460 Dual-Foot Air Chuck. 1/4"-18 female NPT. 6 1/8" long.

GA296 Angled Air Chuck. 1/4"-18 female NPT. Includes rubber gasket.

GA358 Air Chuck. Features comfortable Snap-on® black handle. Thread size of 1/4" NPT. Overall length of 7".

GA359 Dual-Foot Air Chuck. Easily access hard to reach inner tandem wheels. Tilt lock feature locks onto the valve. 30° reverse angle chuck can be used on outside tires. Comfortable Snap-on® black handle. Thread size of 1/4" NPT. Overall length of 12".

YA173A Angled Clip-on-Style Air Chuck. 1/4"-18 female NPT. Spring-loaded, trigger-operated valve stem clip. Maximum operating pressure is 200 PSI.



Valve and Stem

Valve Stem Inserters. Simplify installation of valve stem in tubeless tire rim. Shank is notched to accommodate various rim styles. Has a comfortable, screwdriver-type handle. 12" long. Available in four distinct handle colors:

GA143A Valve Core and Stem Tool. Four-function tool inserts and removes cores, taps inner stem threads, and chases outer threads. 1 7/8" x 13/16".

VT1A Valve Stem Inserter. Black handle.

TR107A Valve Core Tool. For installation and removal of standard valve cores. Has a screwdriver-style handle. 6 1/4" long.

TR108 Valve Core Tool. Similar to TR107A. 4 3/4" long.

TR109 Valve Core Tool. Use to remove or replace valve cores on air-conditioning systems (large bore). 6 3/4" long.

TR125 Valve Core/Stem Tool. Remove/replace tire valve stem caps and stem cores. Light, stainless steel construction with pocket clip. 4" in overall length.

TRX4000 Orange Tire Valve Set. Four-piece mini-screwdriver-style set includes individual tools to insert and remove cores, tap inner stem threads, and chase outer threads. Each tool is 6 1/4" long. Orange handles.

TR1130 Valve Core Remover Tool.

TR1140 Valve Stem Tool. External threads.

TR1150 Valve Stem Tool. Internal threads.

TR1170 Valve Core Remover/Installer Tool.

Tread Depth Gauge

GA599 Tread Depth Gauge. Measures to a depth of 1" in 1/32" increments. Plastic body with aluminum probe and sliding gauge. Includes pocket clip.



Wheel Torque Tools Tire and Wheel



Standard Sockets, Fractional / Metric

Wheel Torque Sockets help eliminate overtightened lug nuts, broken or damaged studs and prevent distortion of rotors, drums, and wheels. Use with 1/2" drive impact wrenches on domestic and imported cars and light trucks to apply accurate lug nut torque. Each 1/2" drive torque socket is manufactured from special heat-treated spring steel that results in the shaft flexing with each blow of the impact wrench when the specified torque is reached. Plastic case for TSS8 Set has two extra slots to add optional wheel torque socket size.

Stock No.	Wrench Size	Torque Limit, ft. lb.	Color
TSS8A	13/16"	100	Brown
TSS8B	21mm	80	Orange
TSS8BB*	21mm	150	Turquoise
TSS8C	3/4", 19mm	100	Gray
TSS8D	21mm	60	Black
TSS8DD	21mm	100	Blue
TSS8E	3/4", 19mm	80	Blue
TSS8F	3/4", 19mm	65	Yellow
TSS8G	17mm	80	Red
TSS8H	17mm	50	Dark Green

*Can be used on Ford F250/350 (1999 and later) plus Ford F Super Duty and Excursion (2000).

TSS8WC Wall Chart. Application chart for TSS sockets through current model year.

TSS8PLWC Laminated Wall Chart. Laminated application chart for TSS sockets through current model year.

Stock No.	Wrench Size	Torque Limit, ft. lb.	Color
TSS8I	7/8"	120	White
TSS8J	1"	140	Tan
TSS8K	17mm	110	Violet
TSS8NN	19mm	90	Gold
TSS800	13/16"	75	Neon Green
TSS8Q	7/8"	140	Aqua
TSS8UU	14mm	75	Dark Purple
TSS8V	1 1/16"	140	Burgundy
TSS8YY	7/8", 22mm	100	Dark Blue

TSS8WR Wheel Torque Sockets Wall Rack. Wall storage rack for TSS8 Series Wheel Torque Sockets. 9/16" wide slots holds both fractional and metric sockets in series. Features two 3/8" screw holes for wall mounting. Measures 1 9/16" wide x 2 3/8" high x 15" long.

TSS8 Wheel Torque Socket Set. TSS8A through TSS8H (except TSS8BB and TSS8DD) (8 pcs) in TSS8-CA Plastic Case with Application Chart.

TSS4 Wheel Torque Socket Set. TSS8A, TSS8C, TSS8E, and TSS8I (4 pcs) in a plastic box.

TSKT90



TSKT9078



TSKT80



305TSKT



Thin Wall Sockets, Fractional / Metric

TSKT90 Wheel Torque Extension and Socket Set. Contains five 1/2" square drive thinwall impact sockets and four wheel torque extensions in a plastic case. Wheel torque extensions and sockets can help prevent over-torquing of wheel nuts and can minimize wheel distortion. The set is designed for use with a 1/2" square drive impact wrench. Thinwall design enables clearance. Designed with the Snap-on® FLANK DRIVE® wrenching configuration for secure and solid engagement of the lugnut. Includes:

Sockets:

TSKT9017	17mm	TSKT9019	19mm	TSKT9021	21mm
TSKT901316	13/16"	TSKT9078	7/8"		

Extensions:

TSKT100	TSKT120	TSKT65	TSKT80
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Extensions

Wheel Torque Extensions help eliminate overtightened lug nuts, broken or damaged studs and prevent distortion of rotors, drums and wheels. Color-coded low friction sleeve for quick reference. Made from cold-formed special alloy steel for greater accuracy and strength. 1/2" male and female square drive for use with appropriate impact socket. Female square drive designed for improved retention on impact wrenches. Male square drive has friction ring for secure retention.

Stock No.	Color	Torque Limit, ft. lb.
TSKT65	Yellow	65
TSKT80	Blue	80
TSKT100	Grey	100
TSKT120	White	120
TSKT140	Teal	140

305TSKT Wheel Torque Extension Set. Use with thinwall impact sockets. TSKT65 thru TSKT140 (5 pcs) in plastic storage tray.



WARNING

• Read additional safety precautions on pages M1 to M4.



See Warranty Information on inside front cover.

Tire and Wheel Lug / Retaining Nut Sockets

Lug Nut Sockets (Magazine Loading)

Magazine loading impact sockets for easy multiple lug nut removal. Each socket removes up to five lug nuts at a time. User can release all the lug nuts at once to eliminate rolling or lost lug nuts and wasted motion. Ideal for use in tire and brake shops. Sockets can also adjust Type 9, 12 and 16 cubic inch air chambers that are equipped with 1/2"-20 threaded rod and 3/4" nut.

Stock No.	Finish	Wrench Size	Square Drive, inches	Outside Diameter, inches	Length, inches
LMS210	Industrial Finish	21mm	1/2	1 7/32	5 5/16
LMS24	Industrial Finish	3/4" (19 mm)	1/2	1	5 5/16
LMS26	Industrial Finish	13/16"	1/2	1 7/32	5 5/16



Lug Nut Sockets

DW402B Dayton Lug Nut Impact Socket. 3/4" square drive with a 1 1/4", 6-point wrench opening. Use with socket retainers.

YA1005C Locking Lug Nut Remover Kit. Removes locking lug nuts and locking hubcaps on most vehicles including the new Chrysler hubcap locks. Updated set includes new turbo lugnut socket to easily remove damaged 3/4", 13/16", 19mm and 21mm lugnuts. Tapered swirl in socket bites into damaged lugnut for quick removal. Removed lugnut may be easily tapped loose from turbo socket. Set is intended for hand use only, except for turbo lugnut socket, which should be used with an impact wrench.

2003LN Double Ended Lug Nut Socket Set. Set includes A98A Socket, A98M Socket, and IMX32B Extension Bar (3 pcs).

A98A Lug Nut Socket. 1/2" square drive is recessed between two 6-point wrench openings: 3/4" and 13/16". Length is 2 3/4" and diameter is 13/16".

A98M Metric Socket. 1/2" square drive is recessed between two 6-point wrench openings: 19mm and 21mm. Length is 2 3/4" and diameter is 13/16".

IMX32B Extension Bar. 1/2" square drive, 5/8" shank diameter; 3" long. Snap ring locking mechanism.

TSR500 Worn Lug Nut Remover Socket. Use on late model OEM and aftermarket lugnuts. Dual sided design allows use on 3/4", 13/16", 19mm and 21mm lugnuts. Use with 1/2" drive Impact Wrench. Fluted socket design helps remove most stubborn lugnuts. Includes extractor punch.

TSR600 Lug Nut Impact Socket. 1/2" square drive is located in the center of the socket. Use included pin to dislodge lug nut if wedged in socket. Removes most locking lug nuts and has 2-in-1 flip socket design. For use with impact wrench. Fluted for extra grip.

TSR700 Lug Nut Socket. Use on late model OEM and aftermarket lugnuts. Dual sided design allows use on 7/8", 1", 22mm and 25mm lugnuts. Use with 1/2" drive Impact Wrench. 6-flute socket design helps remove most stubborn hex lugnuts.

TSR800 Lug Nut Impact Socket. Use on late model OEM and aftermarket lugnuts. Dual sided design allows use on 7/8", 1", 22mm and 25mm lugnuts. Use with 1/2" drive Impact Wrench. 12-flute socket design helps remove most stubborn round lugnuts.

Retaining Nut Sockets

S6109A 6 Lug Axle Nut Socket. For front wheel bearing retaining nut on 3/4 ton vehicles with heavy duty suspension. Designed for use on GM, Ford, and Dodge trucks with Dana 70 Series Axle. 1/2" square drive. 3 3/4" long. Industrial finish.

S8695C 4 Lug Axle Nut Socket. 1/2" square drive. For 1/2 ton vehicles with manual locking nuts. Use on front wheel bearing retaining nut on Dana 44 Series Axle used on 1959 and later GM, Ford, Dodge, and AMC. 3 3/4" long. Industrial finish. RAILROAD APPLICATIONS: Use to install or remove the point detector bushing found on WABCO-M23B switch machines.

Torque Wrench

BRUTUS3R250D Torque Wrench. 1/2" square drive ratcheting mechanism mounted in a 3/4" drive ratchet head and handle body make the BRUTUS3R250D ideal for tire shop use. The long handle provides extra leverage for tough jobs.

LMS26



LSR1500



YA1005C



LSR2500



LSR2000



2003LN



LSR1500 Double-Duty Lug Nut Socket Set. Set contains five sockets for use on the most popular lug nut sizes (17mm, 19mm / 3/4", 21mm, 13/16" and 7/8"). Sockets feature the standard 6-Point Flank Drive® wrenching configuration at one end and a 6-fluted twist socket for removal of damaged wheel lugs at the other end. When working just flip the socket when encountering a damaged head. There is no hunting for a separate removal socket. Knurling identifies twist socket end. Sockets and 3" extension are all 1/2" drive for use with hand drivers or impact wrenches. All components have a black oxide finish. Set includes plastic storage case.

LSR2000 Thin Wall Lug Nut Socket Set. Thinwall wheel flip sockets cover the four most popular wheel lug sizes. Both sockets (3/4" and 13/16", 19mm and 21mm) feature the Flank Drive® wrenching configuration. 1/2" square drive is located at center of socket. Use with hand driver or impact wrench. Set includes LSR1150 and LSR1250 Lug Nut Sockets and 3" extension in a custom leatherette carrying case. Black industrial finish on all components.

LSR1150 Lug Nut Socket. Thinwall wheel flip socket covers 3/4" and 13/16" wheel lug sizes. Use with hand driver or impact wrench. 3" long.

LSR1250 Lug Nut Socket. Thinwall wheel flip socket covers 19mm and 21mm wheel lug sizes. Use with hand driver or impact wrench. 3" long.

LSR2500 Twist Flip Socket Set. Quickly and easily remove damaged wheel lugs (using the 6-flute end) or damaged wheel locks with damaged or lost keys (using the 12-flute end). 1/2" square drive is located at center of socket. Use with hand driver or impact wrench. Set includes LSR2501 and LSR2502 Lug/Lock sockets and 3" extension in a custom leatherette carrying case. Black industrial finish on all components.

LSR2501 Twist Flip Socket. 3/4"-19mm twist socket quickly and easily removes damaged wheel lugs (using the 6-flute end) or damaged wheel locks with damaged or lost keys (using the 12-flute end). Use with hand driver or impact wrench. Black industrial finish. 2 5/8" long.

LSR2502 Twist Flip Socket. 7/8" twist socket quickly and easily removes damaged wheel lugs (using the 6-flute end) or damaged wheel locks with damaged or lost keys (using the 12-flute end). Use with hand driver or impact wrench. Black industrial finish. 2 5/8" long.

S6109A



S8695C



S6146



S6146 4 Lug Axle Nut Socket. For front wheel bearing retaining nut on 3/4 ton vehicles with Dana 60 Series Axle used on GM, Ford, and Dodge trucks. 1/2" square drive. 3 3/4" long. Industrial finish.

BRUTUS3R250D



Push-up lock mechanism, fingertip reverse lever and the shock resistant handle contribute to ease of use. Includes self-adhesive Newton-meter conversion scale for handle. Packaged in cardboard box.

Axle Nut Sockets

Use with a torque wrench to service truck wheel bearing lock nuts.

Stock No.	Nominal Size	Type
<i>1/2" Square Drive</i>		
ANS1937	2 1/2"	6-Point
ANS1939*	2 3/8"	6-Point
ANS1938	2 3/4"	6-Point
<i>3/4" Square Drive</i>		
ANS1900B	2 1/8"-54mm	6-Point
ANS1933A**	59mm	6-Point
ANS1901A	2 3/32"	6-Point
ANS1920A	2 1/4"	6-Point
ANS1902A	2 3/8"	6-Point
ANS1903A	2 3/8"	8-Point
ANS1921A*	2 1/2"	6-Point
ANS1928A*	2 9/16"	6-Point
ANS1905A	2 9/16"	8-Point
ANS1904A	2 9/16"	6-Point
ANS1922A	2 5/8"	6-Point
ANS1923A	2 3/4"	6-Point
ANS1924A	2 3/4"	8-Point
ANS1926A	2 13/16"	8-Point
ANS1932A	2 7/8"	6-Point
ANS1906A	3"	6-Point

*Fits special "rounded" hex nuts on Dana axles of some Ford trucks.

**For 1/2 ton vehicles with automatic locking nuts. Designed for late model Ford vehicles.

GM Axle Nut Set

305SIMMY 6-Point Deep Impact Socket Set. SIMM290, SIMM300, SIMM340, SIMM350, and SIMM360 (5 pcs) (29, 30, 34, 35, and 36mm) on A269 Socket Rail and Clips.

SIMDM300



Toyota / Lexus Axle Nut Socket

SIMDM300 Remove or install axle nuts on Toyota Avalon, Camry, Highlander and Matrix plus Lexus ES300 and Pontiac Vibe. Can also be used on 1999 and later VW Beetle, Jetta and Golf. 1/2" square drive, 30mm, 12-point, industrial finish.

Stock No.	Wrench Size, mm	Outside Diameter, inches	Bolt Clearance Depth, inches	Hex Depth, inches	Length, inches
SIMDM300	30	1 11/16	2 17/32	7/8	3 1/2

Tire and Wheel

ANS1933A



Stock No.	Nominal Size	Type
<i>3/4" Square Drive</i>		
ANS1907A	3"	8-Point
ANS1908A	3 1/4"	6-Point
ANS1909A	3 1/4"	8-Point
ANS1910A	3 1/2"	6-Point
ANS1911A	3 1/2"	8-Point
ANS1925A	3 3/4"	8-Point
ANS1927A	3 13/16"	8-Point
ANS1912A	3 7/8"	6-Point
ANS1913A	3 7/8"	8-Point
ANS1914A	4"	6-Point
ANS1915A	4 1/8"	6-Point
ANS1916A	4 3/8"	6-Point
ANS1917A	4 3/8"	8-Point
ANS1918A	4 7/8"	6-Point
ANS1919A	4 7/8"	8-Point

SIM540



Dodge Truck Axle Nut Socket

SIM540 Remove or install 1996 and later Dodge truck axle nuts. Also can be used on other truck and bus wheel applications. Flank Drive® wrenching design.

	Wrench Size, inches	Wrench End Diameter, inches	Drive End Bolt Diameter, inches	Clearance Depth, inches	Hex Depth, inches	Length, inches
SIM540	1 11/16	2 1/2	1 3/8	2 7/8	7/8	3 1/2

Bead Breakers

TR200

CG20

BH102



Bead Breakers

TR200 Bead Breaker. For bus, truck, or tractor tires. Sliding hammer weighs 13 lb. Stroke length is 16"; overall length is 46" closed and 62" expanded.

BH102 Hammer. 9 1/4 lb. 32" long handle gives force and leverage for bead breaking on auto and large truck tires. Has rubber hand grip.

BH102-1 Replacement Hammer Handle. For BH102.

CG20 Bead Breaker. Simple downward push on handle breaks bead on all deflated tires. Use on small motorcycle tires to tires on light-duty trucks.



WARNING

- Do not exceed rated torque.
- Do not use to break fasteners loose.
- Do not force head against flex stops.
- Frequently inspect, clean, and lubricate ratchet mechanism with light oil.
- Do not replace worn parts individually; use entire contents of the service kit.
- Periodic recalibration is necessary to maintain accuracy of any torque wrench.
- Recalibrate every 6 months or more depending on use. ANSI B107.14M specifies that accuracy is maintained through 5000 cycles for click-type torque wrenches.
- Do not use axle nut or spanner socket with impact driver.
- Read additional safety precautions on pages M1 to M4.



Tire and Wheel

BWD482



BWDM412



Dual Opening Impact Sockets

6-point and square openings are combined in one socket. Use with socket retainers shown above right. Industrial finish.

BWD482 Dual Opening Socket. 1 1/2" hex, 13/16" square, 3/4" drive. Hex opening depth is 5/8"; square opening depth is 2 1/4"; hex clearance is 1 1/4", 4" long.

BWD483 Dual Opening Socket. Similar to BWD482 except it is 1" square drive.

BWDM412 Dual Opening Socket. 3/4" square drive with 41mm hex and 21mm square beneath the hex. For 1986 and later Nissan and Isuzu classes 4, 5, 6, and 7. 108mm long.



YA299



YA499

Stud Remover and Installers

YA299 Remover Set. Removes 3/4" and 5/8" studs and 1 1/8" cap nuts. Use with hammer and lug wrench or impact socket and wrench. Includes YA299-1 1 1/8" Rib Nut for 13/16" Budd wheels, YA299-2 3/4" Rib Nut for spoke wheels, YA299-3 5/8" Rib Nut, and YA299-4 Driver Tool.

YA299-1 Rib Nut (1 1/8"). For 13/16" Budd wheels.

YA299-2 Rib Nut (3/4"). For spoke wheels.

YA299-3 Rib Nut (5/8").

YA299-4 Driver tool.

YA499 Installer Set. Includes YA499-1 3/4"-10 and YA499-2 5/8"-11 Installers. 1 1/4" hex drive. Both tools fit 1 1/4" hand or impact sockets.

YA499-1 Installer. 3/4"-10.

YA499-2 Installer. 5/8"-11.

Shackle Pin

Shackle Pin Impact Sockets

Oval-shaped wrench opening services shackle pins on International and Kenworth semi-tractors.

SPS10 Shackle Pin Socket. 1/2" square drive. Socket opening is 41/64" x 1 3/32". 1 3/4" long.

SPS11 Shackle Pin Socket. 1/2" square drive. Socket opening is 21/32" x 1 17/32". 1 3/4" long.



SPS10

Budd Wheel

BW626A



Impact Sockets

Use with socket retainers listed above right. Industrial finish.

Stock No.	Square Drive, inches	Wrench Size	Length
BW626A	3/4	1 3/16" square	4"
IM562	3/4	1 3/4" hex	2 9/16"
IM630	3/4	1 5/16" square	1 7/8"
SIMM332	3/4	33mm hex	82.6 mm
BW726A	1	1 3/16" square	2 1/4"
SIM563	1	1 3/4" hex	3 7/8"
IM730*†	1	1 5/16" square	2 1/8"

*Not FLANK DRIVE®

†Has Budd Wheel Applications

BWS1316



WSK755



BWS1316 Stud Remover. Use on 13/16" studs on Budd wheels.

WSK938 Wheel Stud Installer Kit. Use on most domestic and import cars. Self-centering units permit quick installation the first time. Will not damage threads. Can be used with impact wrenches. Clamshell container for storage. Includes 7/16"-20, 1/2"-20, 12mm-1.25 and 12mm-1.5 installers plus spacer and washer.

WSK755 Wheel Stud Installer Kit. Use on most domestic and import light trucks and SUV. Self-centering units permit quick installation the first time. Will not damage threads. Can be used with impact wrenches. Clamshell container for storage. Includes 9/16"-18, 1/2"-20, 12mm-1.75 and 14mm-1.5 installers plus spacer and washer.

Spanner Sockets

Spanner Sockets

For use with a torque wrench when servicing Chevrolet, GM, and Ford axles.

ANS1929A



Stock No.	Drive Size, inches	No. of Lugs	Outside Diameter, inches	Application
ANS1929A	3/4	6	2 5/8	Chevy/GMC with 5200 and 7200 lb. axles.
ANS1930	3/4	6	2 7/8	Chevy/GMC with 11,000 and 13,500 lb. axles.
ANS1931	3/4	6	3 5/8	Chevy/GMC with 15,000 and 17,000 lb. axles.
ANS7269A	1/2	6	2 3/4	1985 and later Ford F250/F350 with floating rear axle.

Impact Socket Retainers

3/4" Drive Impact Socket Retainers

For all 3/4" Drive Sockets and Accessories.

IM182R Lock Ring.

IM182P Steel Pin.

IM182PP Plastic Pin.

IMR2 Socket Retainer.

1" Drive Impact Socket Retainers

IM243P Steel Pin. For use with IM243R. Fits IM35.

IM243PP Plastic Pin. For use with IM243R. Fits IM35.

IM243R Lock Ring. For IM243 to IM443 and SIM223 to SIMM353.

Synthetic Rubber, Fits IM35

IMR3 Socket Retainer. For all 1" drive sockets. The one-piece retention system holds the socket to the impact wrench anvil. Covered under U.S. Patent 4,627,761.

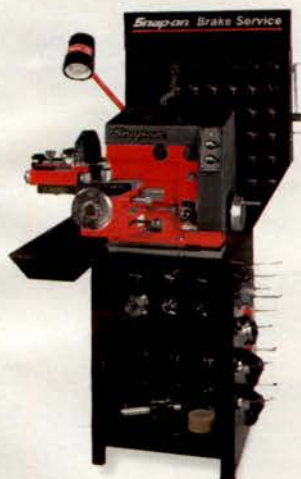
UNDER CAR Products



EELR338A
Mid-Rise Scissor Lift



EEWH303A
Deluxe Tire Changer



EEBR309ABP
Brake Lathe



EEWB305A
Compact Wheel Balancer

If you're going under-car, you're going to want Snap-on there with you. Nobody can help you with more expertise, clear thinking and aggressive product development than Snap-on.

Let's start with getting under the car. We offer a variety of lifts, and the highlight of the line is our 6,500 lb. capacity mid-rise lift, capable of doing SUVs. This hot set-up to gives you the flexibility to do what you need to do without tearing up your floors.

Looking for a wheel balancer? Our new hand-spin model is rugged and reliable, easy to use and covers many specialty wheels. The built-in computer tells you exactly where to put the weight to correct both dynamic and static imbalance.

Once you get the wheels off the car, our new EEBR309ABP Brake Lathe and EEWH300A Series Tire Changers help make short work of brake work and tire replacement and put more profit back in your pocket.

And while you're under there, don't forget about the easy-to-use Snap-on® scanner with the transmission troubleshooter and ABS package. They'll guide you through the operating systems, show how systems fail and give valuable repair information.

If you're under the car, get under the care of Snap-on. Nothing Even Comes Close™.

Wheel Balancing Computerized Balancers

FEATURES:

- Eight balancing modes: Dynamic mode, Static tape weight mode, five ALU modes and an ALU-S mode for specialty wheels.
- Single parameter auto entry. Rim offset is entered automatically by touching the distance gauge to the rim.
- Dual operator mode allows two separate parameter inputs.
- Custom weight placement mode permits exact computing of imbalance using hidden weight method.

- New measuring system provides greater accuracy.
- Balances wheels to 0.10 oz. (2 gram) at a variable operating speed of less than 120 RPM.
- Self-calibration and self-diagnostic minimize maintenance.



EEWB305A



EEWB304A

Hand Spin Wheel Balancer

EEWB305A Hand Spin Wheel Balancer. Use on passenger cars, light trucks, motorcycles and commercial vehicles. Compact 38" x 21" (966mm x 610mm) footprint. No safety hood required. Ergonomically located control panel with simple, easy-to-follow data input. Control panel features wheel graphic with LED indicators for weight positions. Two separate LED windows display both left and right imbalance amounts. Four storage pegs for cones and balancing accessories. Twelve weight storage pockets. 28.5mm shaft diameter with 120 lb. Shaft capacity. Includes four cones for more wheel variety. Requires 60" W x 48" D (1524mm x 1220mm) installation space.

Included Accessories for EEWB305A and EEWB304A:

- EAA0247G21A Rim Width Caliper.** For EEWB304A/EEWB305A.
- EAM0003J10A Small Cone.** Measures 1.67" to 2.80" (43 to 72mm).
- EAM0003J11A Medium Cone.** Measures 2.65" to 3.34" (68 to 85mm).
- EAM0003J12A Large Cone.** Measures 3.19" to 3.90" (82 to 99mm).
- EAM0003J13A Light Truck Cone.** Measures 3.50" to 5.20" (89 to 132mm).
- 8-02040A Quick Nut.** For EEWB304A/EEWB305A.
- 8-02040A2 Quick Nut Pressure Cup.** For EEWB304A/EEWB305A.
- 8-02040A1 Pressure Disk.** For EEWB304A/EEWB305A.

EEWB305A Specifications

Accuracy, oz. (grams)	0.10 (2)
Rim Diameter, inches (mm)	6-26 (152-660)
Rim Width, inches (mm)	3-16 (76-406)
Tire Diameter, inches (mm)	44 (1118) maximum
Tire Weight, lb. (kg)	120 (54) maximum
Tire Width, inches (mm)	19 (483) maximum
Electrical Requirements	120VAC, 60 Hz, single phase, 2 amp
Sound Level, dBA	70
Shipping Weight, lbs. (kgs)	170 (77)

Motorized Wheel Balancer

EEWB304A Motorized Wheel Balancer. Use on passenger cars, light trucks, motorcycles and commercial vehicles. Measuring time (14" tire) is about 7 seconds. Complete Cycle Time (15" tire) is less than 15 seconds. Ergonomically located control panel with simple, easy-to-follow data input. Control panel features wheel graphic with LED indicators for weight positions. Two separate LED windows display both left and right imbalance amounts. Safety hood is standard. Four storage pegs for cones and balancing accessories. 19 weight storage pockets. 28.5mm shaft diameter with 150 lb. Shaft capacity. Includes four cones for more wheel variety. Requires 60" W x 48" D (1524mm x 1220mm) installation space.

Optional Accessories for EEWB305A and EEWB304A:

- EAA0260D80A Motorcycle Adaptor.** For 14mm Integrated Shaft. Optional motorcycle adaptor plate for EEWB305A / EEWB305A / EEWB308A Wheel Balancers.
- JBC110614 Universal Flange.** Use with lug-centric wheels and wheels without center holes.

EEWB304A Specifications

Accuracy, oz. (grams)	0.10 (2)
Weight Placement Resolution	± .7°
Rim Diameter, inches (mm)	6-25 (152-635)
Shaft Measuring Speed	Less than 120RPM (variable)
Rim Width, inches (mm)	3-20 (76-508)
Tire Diameter, inches (mm)	44 (1,118) maximum
Tire Weight, lb. (kg)	133 (60) maximum
Tire Width, inches (mm)	20 (508) maximum
Electrical Requirements	120VAC, 60Hz, 1 Phase, 15 amp
Sound Level, dBA	70
Shipping Weight, lbs. (kgs)	325 (147) w/standard accessories

Computerized Balancers Wheel Balancing

Motorcycle Wheel Balancer

EEWB308A Motorcycle Wheel Balancer.

FAST AND EASY TO USE

Quickly, easily and accurately hand spin balance motorcycle wheels. Two plane weight display makes the system easy to use and understand. Automatic brake stops the wheel after the measurements are complete allowing the operator time to select weights. Weights and pliers are at your finger tips – 12 pockets for standard weights, one for tape weights or for pliers storage. Automatic distance entry speeds setup time – distance is entered in memory with one touch. Memory permits the storage and instant recall of two of the most often used tire parameters or use by two operators for faster balancing. Petal activated spindle lock holds tire wheel assembly for accurate weight placement. Low balancing speed – less effort to achieve balancing speed.

ACCURATE

VPI (Virtual Plane Imaging) technology provides unsurpassed accuracy.

MINIMIZE MAINTENANCE

Self-calibration ensures accurate balancing with minimal outside maintenance expense. Self-diagnostic program reduces maintenance cost. Membrane metal buttons for durability – keep out dirt and grit.

REQUIRED INSTALL SPACE: 45"W x 60"D (1,143mm x 1,524mm)

EEWB308A Includes:

WBM1412 Conical MC Spring.

WBM360701 Conical Spring.

WBM360901 MC Shaft Spacer.

WBM7607 French Handle.

WBM7609 French Handle Bolt.

WBM1419 MC Adaptor Kit.

WBM8430-02 MC Caliper Assembly.

EAA0255J43A MC Flange Assembly.

EAA0005D62A Distance Gauge Extender.



EEWB308A Specifications

Accuracy, oz. (grams)	0.10 (2.8)
Weight Placement Resolution	±0.7°
Cycle Time (15" wheel)	Approx. 8 seconds
Shaft Measuring Speed	less than 100 RPM
Shaft Capacity, lbs. (kg)	60 (27.2) maximum
Rim Diameter, inches (mm)	6-26 (152.4-660.4)
Rim Width, inches (mm)	1-16 (25.4-406)
Tire Diameter, inches (mm)	44 (1,117) maximum
Tire Width, inches (mm)	16 (406.4) maximum
Electrical Requirements	120VAC
Shipping Weight, lbs. (kg)	225 (102) with standard accessories

Optional Accessories for EEWB308A:

WBM1400-02 Shaft Assembly.

EAA0260D16A BMW Adaptor. For rear monolever wheels. Must be used with EAA0260D80A Adaptor.

EAA0260D80A Motorcycle Adaptor. For 14mm Integrated Shaft. Optional motorcycle adaptor plate for EEWB305A / EEWB305A / EEWB308A Wheel Balancers.

EAA0277D03A 10mm Shaft Assembly for integrated shaft.

EAA0277D05A Scooter Adaptor. Must be used with EAA0260D80A Adaptor.

EAA0277D06A Scooter Rear Wheel Adaptor 14mm shaft. Must be used with EAA0260D80A Adaptor.

EAA0277D07A Suzuki Adaptor for 14mm shaft. Must be used with EAA0260D80A Adaptor.

EAA0277D09A Honda/Yamaha Wheel Adaptor for integrated shaft.

EAA0277D11A Aprilia Rear Monolever wheel adaptor for integrated shaft.

EAA0277D20A Ducati Adaptor for 3/4" shaft. Must be used with EAA0277D22A Harley Davidson Shaft Assembly.

EAA0277D21A Ducati Adaptor for 28.5mm shaft.

EAA0277D22A Harley Davidson shaft assembly for integrated shaft.

EAA0277D29A 14mm Long shaft for machines with integrated shaft.

WBM1486-03 19mm Bushing Set. Required for Harley-Davidson Super Glide, Lowrider, and Touring models with 7 1/2" wheels.

WBM1515 12mm Shaft Set. Required for wheels with 12mm ID bearings as found on some Honda, Kawasaki, Suzuki, and Yamaha motorcycles.

WBM2483-2 Cone Set for Honda motorcycles. Includes 2 cones.



WARNING

• Read additional safety precautions on pages M1 to M4.



See Warranty Information on inside front cover.

Wheel Balancing Computerized Balancers

Truck / Automotive Wheel Balancer

WB410 Computerized Balancer for Truck and Auto Wheels. Built-in battery provides power to the electronics module, which means complete portability to areas where standard line current may not be readily available. Automatic power-down circuit conserves battery. Built-in jack makes the balancing of even the heaviest wheels a one-man operation. Features multiple balancing modes, static, dynamic, and four custom modes. Includes small weight tray. Operates on 120VAC, 50 Hz/60 Hz line source or 12VDC. Both a 240VAC, 50 Hz/60 Hz converter and a UK-approved converter are available on special order. U.S. Patents 4,507,964 and 4,741,211 apply.

WB1465-01 Adaptor Plate. For 10-bolt, 11 1/4" (285mm) bolt circle and 8-bolt, 10 3/4" (275mm) bolt circle.

WB1465-02 Adaptor Plate. For European 10-bolt, 13 3/16" (335mm) bolt circle.

WB1465-03 Adaptor Plate. For 10-bolt and 6-bolt, 8 3/4" (222mm) bolt circle.

WB1496-01 Adaptor Plate. For 10-bolt 11 1/4" and 8-bolt 10 3/4" bolt circles. For 22" to 24" diameter wheels.

WB1496-02 Adaptor Plate. For 20" to 22" diameter wheels.

WB1497 Automotive Back Cone Mounting Set. For balancing wheels down to 13" (330mm) diameter on WB410.

WB1207-02 Extension Flange. Permits balancing of extra-wide light truck wheels. Flange is 2" wide. Outside diameter is 7".



WB410 Specifications

Set Head	Wheel Balancer
Accuracy Normal Mode, oz. (g)	2 (50)
Accuracy Fine Mode, oz. (g)	*
Rim Diameter, inches (mm)	13-26 (330-660)
Rim Width, inches (mm)	4 1/2-15 (114-381)
Tire Weight, lb. (kg)	500 Maximum (227)

*.1 oz. (2 g) on rims less than 17 1/2" in diameter; .25 oz. (5 g) when balancer is dialed down to automotive rims from 2 oz. accuracy on truck rims.

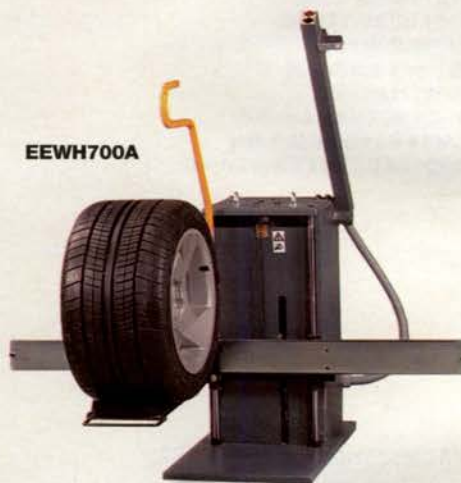
Pneumatic Wheel Lift

EEWH700A Specifications

Air Supply Required	118-176 PSI (8-12 bar)
Tire Diameter, inches (mm)	40 (1000) maximum
Wheel Width, inches (mm)	22 (550) maximum
Wheel Weight, lbs. (kg)	198 (90) maximum
Platform Height From Floor, inches (mm)	3.9 (100) minimum, 25.9 (660) maximum
Balancer Shaft Height, inches (mm)	27.4 (698) minimum, 30.7 (781) maximum
Dimensions	63" x 63" x 48"
Weight, lbs. (kg)	308 (139.7)

EEWH700A Pneumatic Wheel Lift. Easily moves heavy wheels to balancers and tire changers. Can operate with a wheel balancer, tire changer or work between the wheel balancer and tire changer. Lifting capacity up to 198 lbs. (90 kg.), including new run-flat style tires such as the Michelin PAX wheel for Lincoln Navigator. Unit runs on pneumatic pressure (no electric power requirements). Two button operation with integrated sensing to determine balancer shaft height. Can be used with most wheel balancers and tire changers.

EEWH700A



Wheel Balancing Accessories

KRD401A Wheel Weight Cabinet. Cabinet sits on your bench or mounts to wall. Provides storage for a wide assortment of wheel weights. There are 36 compartments in all, each measuring 3 7/8" x 3 7/8". Five slideout dividers permit enlarging some compartments to accommodate very large wheel weights.

WWPR13A Right Angle Wheel Weight Pliers. Easily removes and replaces wheel weights, as well as cutting and crimping. Made of heat-strengthened steel. Includes comfortable vinyl handle grips and a replaceable hard plastic hammer tip.

WWPR13-3 Replacement Hammer Tip. For WWPR13A.

EEWB400A Wheel Weight Trolley. Four tier design with six compartments per tray for organization. The top three trays rotate to bring weights and tools within easy reach. Trays are 20" in diameter and 1 1/4" deep. Manufactured from polyurethane to resist damage from most shop chemicals. Four 3" solid casters for mobility.

EEHT300A Adhesive Wheel Weight Removal Tool. Hard plastic blade easily removes adhesive wheel weights without damage to aluminum rims. Ergonomic handle design for a comfortable grip with maximum control. May be easily resharpened. 10 3/4" (273mm) long, 7/8" (22mm) blade width.

KRD401A



EEWB400A



WWPR13A



Tire Changers Wheel Balancing

High Performance Tire Changers

All units feature soft handling of all wheels including High Performance and Run Flat styles. Protector sleeves in Mount/De-mount head prevent topside damage while protector pads on turntable clamps prevent bottom side damage to clear coated and painted rims. 41mm diameter vertical Mount/De-mount shaft eliminates flex movement when mounting low profile and high speed rated performance tires.

Rubber side bead breaker pads. .57" lathed turntable is chromed for easier cleaning. Clamping capability to handle everything from import compacts to high performance racing wheels. Four high velocity inflation jets are integrated into the turntable clamps to insure maximum tire inflation efficiency. See your Snap-on® representative for full details.



EEWH302A Air Wheel Clamp Tire Changer. Includes safety restraint arm with interlock, in-line water filter and automatic air lubricator, lubrication storage bottle, tire mounting bar, two Mount/De-mount head replacement inserts, bead depressor clamp, operators manual and parts reference.

Available accessories include tire mounting bar protective sleeves, replacement Mount/De-mount head inserts (pack of ten), bead breaker extension, 8" wheel adaptors, motorcycle wheel adaptors, plastic clamping jaw protective covers and Pneumatic Mounting Assistance unit. See your Snap-on® representative for full details.

EEWH304A Electric Wheel Clamp Tire Changer. Similar to EEWH302A, except electrically powered.

EEWH303B Air Wheel Clamp High Performance Tire Changer. Side mounted Pneumatic Mounting Assistance (PMA) unit depresses the bead on extremely stiff sidewall Run Flat and performance tires. Bottom Bead Roller assists the user to loosen stubborn lower beads plus hold up extremely wide tires. Includes safety restraint arm with interlock, in-line water filter and automatic air lubricator, lubrication storage bottle, tire mounting bar, two Mount/De-mount head replacement inserts, bead depressor clamp, operators manual and parts reference.

Available accessories include tire mounting bar protective sleeves, replacement Mount/De-mount head inserts (pack of ten), bead breaker extension, 8" wheel adaptors, motorcycle wheel adaptors, plastic clamping jaw protective covers and Pneumatic Mounting Assistance unit. See your Snap-on® representative for full details.

EEWH305B Electric Wheel Clamp High Performance Tire Changer. Similar to EEWH303B, except electrically powered.

Specifications	EEWH302A / EEWH304A	EEWH303B / EEWH305B
Rim Diameter Capacity (Inside Clamping)	12" to 22"	
Rim Diameter Capacity (Outside Clamping)	10" to 20"	
Rim Width, Maximum	12"	
Tire Diameter Maximum	40"	
Bead Breaking Force	3,300 lbs. @ 150 PSI air supply	
Air Supply Required (EEWH302A/ EEWH303B)	140-170 PSI	

Accessories For EEWH302A, EEWH303B, EEWH304A and EEWH305B

EAA0247G03A Plastic Clamping Jaw Protective Covers.

Order 4 pieces for a complete set.

EAA0247G07A Motorcycle Wheel Adaptors.

Order 4 pieces for a complete set.

EAA0247G08A 8" Wheel Adaptors.

Order 4 pieces for a complete set.

EAA0247G05A Lube Bottle (with swab).

EAA0247G14A Motorcycle Bead Breaker Extension.

EAA0247G04A Tire Mounting Bar Protective Sleeves.

EAA0247G13A Pneumatic Bead Assist.

EAA0247G15A Replacement Mount / De-Mount Inserts. Package of 10.

EAA0247G19A Quick Tool Exchange Kit. Includes plastic tool.

EAA0247G20A Plastic Mount / De-Mount Tool.

EAA0247C70A Bead Holding Clamp.

EAA0247G02A Tire Mounting Bar.



WARNING

• Read additional safety precautions on pages M1 to M4.



See Warranty Information on inside front cover.

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Wheel Balancing Tire Changers

EEWH301B



Basic Tire Changer

EEWH301B Tire Changer. Unit features two 7" dual power pneumatic drive cylinders to provide forward and reverse cycle power. Drive cylinders can be rebuilt if necessary. Integrated adjustable lower bead breaker for versatility. Two-way power from air and hydraulic sources. Also includes industry-proven safety hold down safety system.

- EAM0002C53A** Upper Bead Breaker Extension
- EAA0247C79A** Tire Bar Nylon Protector Kit
- EAM0002C60A** Tire Repair Spreader
- EAA0247C78A** Replacement Tool Bar
- EAA0247C71A** Inflatable Mag Cushion.
- EAA0247C73A** Lube Bottle with Swab.
- EAM0002C50A** Center Post Extension.
- EAM0002C51A** Positioning Pin Extrusion.
- EAA0247C75A** Air Gauge.
- EAM0002C52A** Hold Down Cone.
- EAA0247C70A** Bead Holding Clamp.

EEWH301B Specifications

Rim Diameter, inches (mm)	10-17.5 (254-445)
Rim Width, inches (mm)	3-19.75 (76-502)
Air Supply Required	120-180 PSI (8-12 Bar)
Center Post Torque (150 PSI)	550 ft. lbs.
Cylinders	Two 7" diameter x 6.5" stroke
Surge Tank	10" diameter x 18.75 high (.75 cu. ft.)
Dimensions, inches (mm)	22 x 54.5 x 44 (559 x 1,384 x 1,118)
Shipping Weight, LBS. (Kgs)	520 (236)

Motorcycle Tire Changer

EEWH307B Motorcycle Tire Changer.

- Integrated Air Gauge
- Four Clamping jaws are adjustable to three different positions: 5"-13", 12"-18" and 15"-23".
- Two 2.5" O.D. under turntable clamping cylinders provide uniform clamping power throughout power cycle.
- Bi-directional turntable has full power in forward and reverse directions.
- De-mount tool for convenient de-mounting.
- Lubricator and filter provide smooth operation.
- Bead breaker pad is horizontally adjustable through 12 adjustments of breaker opening : 0.75"-13.2" (18mm-330mm).

EEWH307B



- Rectangular Bead Breaker pad is vertically adjustable in 90° steps to best support rim shape.
- Tire changer swing arm Vertical Tower is height adjustable to: 2"-10.68" (53-267mm) Lowest Setting and 12.5"-21" (312-527mm) Highest Setting.
- Three Foot Pedal Operation: Wheel clamping and chuck rotation with front pedals; bead breaker with left side pedal (near breaker arm).
- One mounting head for rim diameters from 5"-23".
- Bead Breaker is ergonomically located on left side of tire changer so all operations can be made from the same side.
- See your Snap-on® Representative for optional accessories.

EEWH307B Specifications

Electrical Requirements	120VAC, 50/60 Hz, single phase
Air Supply Required	118-176 PSI (8-12 BAR)
Rim Diameter Range/Jaw Position 1	5"-13" (125-325mm)
Rim Diameter Range/Jaw Position 2	12"-18" (300-450mm)
Rim Diameter Range/Jaw Position 3	15"-23" (375-575mm)
Max. Wheel Diameter/Tower Position Max.	2"-10.68" (53-267mm) low setting
Max. Wheel Diameter/Tower Position Min.	12.5"-21" (312-527mm) high setting
Max. Tire Diameter, inches (mm)	39" (1000mm)
Tire Width, inches (mm)	2 to 13.5 (50.8-342.9mm)
Chuck Speed RPM	8.5
Number of Pedals	3
Number of Clamping Cylinders	2
Clamping Cylinder Diameter, inches (mm)	2.5 (63)
Bead Breaking Force	2,640 ft. lbs. (1200 kgs) @ 150 PSI
Bead Breaker Opening	.8" to 13"
Motor Size	115V, 50/60 Hz, single phase
Dimensions, inches (mm)	67 x 29 x 46 (1675 x 710 x 1135)
Weight, lbs. (kg)	284 (128)

Brake Lathes and Accessories Brakes

Accurate, fast, versatile, and durable—that's Snap-on professional brake service.
 The Premium, Proven Solution: Model EEBR309A Combination Rotor/Drum Brake Lathe
 The Technician-Friendly, Cost-Effective Solution: EEBR308A Combination Rotor/Drum Brake Lathe



EEBR308A Features:

- Supports drums or rotors up to 100 lbs. using the standard 1" (25.4mm) arbor.
- Single feed rate and spindle speed with one-cut capability for technician ease-of-use.
- Time-saving independent tool holders, independent feed motors and independent boring bar for fast setup, no change over.
- Positive rake toolbits provide superior surface finishes and "one cut" capability.
- Tapered roller spindle bearings for precise cuts and long-lasting durability.
- Dove-tail tool slides with adjustable gibs protected with felt wipers for long service life.
- Rapid traverse hand wheels speed setup.
- Twin cutter tool reconditions both brake rotor surfaces simultaneously with adjustable aluminum micrometer dials for precise depth-of-cut settings.
- Convenient, lathe top storage tray for tools.
- See-through cutter safety shield and built-in worklight.
- Heavy-duty iron mainframe construction for durability and superior vibration dampening.

EEBR309A Features:

- Supports drums or rotors up to 100 lbs. using the standard 1" (25.4mm) arbor.
- Offers additional spindle travel to 9.875" (250.83mm) for machining wider brake assemblies with increased drum depth and rotor width.
- Independent boring bar twin cutter provides for wider rotor capacity and spider hub rotor machining such as school bus rotors.
- Negative rake toolbits provide cost-effective machining.
- Heavy-duty, oil-fed bronze spindle bearings for precise cuts and long-lasting durability.
- Adjustable spindle and cross feed speeds allow for easy, rough cut/finish cut settings driven by adjustable variable speed gear box with handwheel controls.
- Patented floating spindle design for more precise cuts.
- Quick drum to rotor changeover.
- Twin cutter tool is adjustable for precise depth-of-cut settings and reconditions both brake rotor surfaces simultaneously.
- See-through cutter safety shield and built-in worklight.
- Heavy-duty iron mainframe construction for durability and superior vibration dampening.

Specifications	EEBR308A	EEBR309A
<i>Rotor Capacities</i>		
Rotor Diameters	15.25" maximum	14.5" maximum
Rotor Thickness	1.75" maximum	4" maximum
Rotor Face Width	5" maximum	3.75" maximum
Rotor Feed Speed	.0032" per rev.	.002"/.010"/Rev.
<i>Drum Capacities</i>		
Drum Diameters	6" to 24"	6" to 28"
Drum Depth	up to 7"	up to 9.875"
Drum Feed Speed	.0048" per rev.	.002"/.010"/Rev.
<i>Spindle Capacities</i>		
Spindle Speed	125 RPM	100 RPM (inner groove), 200 RPM (outer groove)
Spindle Feed Speed (min.)	—	0.002" per rev. (0.05mm/rev.)
Spindle Feed Speed (max.)	—	0.020" per rev. (0.50mm/rev.)
Spindle Travel	—	9.875" (251mm)
Spindle To Floor w/bench	39.75" (1000mm)	39.75" (1000mm)
<i>General</i>		
Flywheel Diameter, (Flat or Stepped)	15.25" maximum	14.5" maximum
Flywheel Face Width	5"	3.75"
Standard 1" Arbor	100 lbs. Maximum (drum/rotor/flywheel)	100 lbs. Maximum (drum/rotor/flywheel)
Arbor Taper	Single	Double
Motor Size	1 HP	1 HP
Electrical Requirements	115VAC, 60 Hz., 20 A	115VAC, 60 Hz, 20 A
Floor Space	48"W x 34.5"D	48"W x 34.5"D
Overall Height	17.25" (438mm)	17.25" (438mm)
Weight (Lathe Only)	370 lbs.	425 lbs.
Shipping Weight, lbs.	425 lbs.	480 lbs.

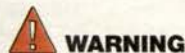
EEBR308ABP Lathe with Bench. Fast setup and simplicity of operation make the EEBR308A especially technician-friendly. Separate tooling for drums and rotors means no changeover procedures are needed. Single spindle speed, single feed rate plus positive rake cuts simplify technician choices, yet add up to fast, single-cut machining and a superior finish. EEBR308ABP includes AMMC0902500S Bench Kit and AMMC0900002 Basic Adaptor Kit to service hubbed and hubless rotors and drums on passenger cars and light trucks through 1/2 ton.

EEBR308ADP Lathe with Bench. Same features and specifications of the EEBR308ABP except includes AMMC0900005 Deluxe Adaptor Kit to service hubbed and hubless rotors and drums on passenger cars and light trucks through 1 ton. Does not include AMMC0900002 Basic Adaptor Set.

EEBR309ABP Lathe with Bench. The industry-standard design of Model EEBR309A has proven its worth in thousands of shops over the years. The massive spindle runs in oil-fed bronze bushings for maximum service life. The twin cutter features independent boring bars to enable simple machining of school bus rotors with spider hubs and wider rotors found on medium trucks plus multiple spindle and feed speeds for easy rough cut/finish cut settings. EEBR309ABP includes AMMC0902500S Bench Kit and AMMC0900002 Basic Adaptor Kit to service hubbed and hubless rotors and drums on passenger cars and light trucks through 1/2 ton.

EEBR309ADP Lathe with Bench. Same features and specifications of the EEBR309ABP except includes AMMC0900005 Deluxe Adaptor Kit to service hubbed and hubless rotors and drums on passenger cars and light trucks through 1 ton. Does not include AMMC0900002 Basic Adaptor Set.

AMMC0902500S Bench Kit. For Snap-on® EEBR308ABP and EEBR309ABP brake lathes. Includes bench, sign, toolboard, chip funnel and bucket.



WARNING

• Read additional safety precautions on pages M1 to M4.



Brakes Brake Lathes and Accessories

EEBR310A OTV Brake Lathe. The EEBR310A mounts on the vehicle hub and resurfaces the rotor to factory specifications. Hub-mounted design offers fast hookup to virtually any vehicle. Balanced, ergonomic design, with simple, three-step operation. Floor-to-floor time per rotor is approximately nine minutes. Built-in runout gauge to verify every job and prevent customer comebacks. Manufacturer recommended for specific models. EEBR310A includes lathe, pneumatic stand and six hub adaptors for passenger cars thru 1-ton trucks and 4WD.



EEBR310A

The On-Car Solution: Model EEBR310A On-The-Vehicle (OTV) Brake Lathe

Specifications	EEBR310A
Rotor Diameters	4" (100mm) minimum, 13.75" (350mm) maximum
Rotor Thickness	1.62" (41mm) maximum
Depth of Cut	.025" per side
Spindle Speed	88 RPM
Carriage Feed Speed	.004/rev. adjustable
Duty Cycle	15 minutes (7.5 on, 7.5 off)
Motor Size	.75 HP, Heavy Duty High Torque, single phase, capacitor start
Electrical Requirements	115VAC, 60 Hz, 15 amps
Dimensions	42" x 42" x 48"
Shipping Weight	225 lbs.

Micrometers

(EEBR308ABP/EEBR309ABP/EEBR310A)

AMMCO908500 Brake Drum Micrometer. Use on brake drums (6-16.125"). Mechanical

AMMCO908545 Brake Drum Micrometer. Use on brake drums (5-15", 127-382mm). Digital.

AMMCO902760 Brake Rotor Micrometer. Use on brake rotors (0-2.25"). Mechanical.

AMMCO902780 Brake Rotor Micrometer. Use on brake rotors (0-2.4", 0-60.9mm). Digital.

Adaptors (EEBR308ABP/EEBR309ABP/EEBR310A)

AMMCO900002 Basic Adaptor Set. Use for Snap-on® EEBR308ABP/EEBR309ABP brake lathes. Includes 1" I.D. adaptors for hubbed and hubless rotors and drums, passenger cars through 1/2 ton light truck.

AMMCO900005 Deluxe Adaptor Set. Use with Snap-on® EEBR308ABP/EEBR309ABP brake lathes. Includes 1" I.D. adaptors for hubbed and hubless rotors and drums, passenger car through 1 ton light truck, plus precision double chuck.

AMMCO909313 Adaptor Set. Hubless, truck, 1" I.D. range 3.75 - 5.50". Extends AMMCO90002 Basic Kit to 1 ton light truck applications.

AMMCO908994 Medium Duty Adaptor Set. Medium duty 1" and 1 7/8" I.D. adaptor set.

AMMCO904775 Heavy/Medium Duty Adaptor Set. 1" and 1 7/8" I.D. adaptor set: 2" thru 8.172", hubbed and hubless.

Carbide Insert Bit Kits

AMMCO9069186 Carbide Bits. Carbide insert (positive rake) bit kit contains 6 bits package along with locking screws. Optional for Snap-on EEBR308ABP brake lathes.

AMMCO9069141 Carbide Bits. Carbide insert (negative rake) bit kit contains 10 bits package along with locking screws. Use for Snap-on® EEBR309ABP brake lathes.

AMMCO9076816 Carbide Bits. Carbide insert (positive rake) bit kit contains 6 bits package along with locking screws. Standard on EEBR308ABP and EEBR310A brake lathes.

AMMCO940410 Carbide Bits. Carbide insert (positive rake) bit kit contains 10 bits package along with locking screws. Use for JBC brake lathes.

AMMCO940415 Carbide Bits. For all Kwik-Way lathes with replaceable insert feature as well as older Snap-on lathe models YA282, YA278A and YA277 series. Carbide insert (positive rake) bit kit contains 10 bits package.

Silencers

(EEBR308ABP/EEBR309ABP/EEBR310A)

AMMCO901175 Rotor Silencer. Clip-on rotor silencer for OTV lathes.

AMMCO901180 Rotor Silencer. Clip-on rotor silencer for bench lathes.

AMMCO905280 Silencer Band. For passenger car/light truck drums. 1 3/4".

AMMCO905290 Silencer Band. For truck drums. 2 3/4".

AMMCO906920 Silencer Band. For ventilated rotors.

AMMCO906921 Silencer Band. For non-vented rotors (6.500" / 165.10mm) diameter. Package of 2.

AMMCO906922 Silencer Band. For non-vented rotors (9.250" / 234.95mm) diameter. Package of 2.

AMMCO909800 Silencer Assembly. For ventilated rotors.

AMMCO907670 Magnetic Silencer. For flywheel machining.

AMMCO908995 Heavy Duty Adaptor Set. Heavy duty 1" and 1 7/8" I.D. adaptor set (5.969" thru 8.172"). Used to extend AMMCO908994 Medium Duty Adaptor Set.

AMMCO940921 Double Chuck Adaptor Set. 1" I.D. Range of 2.125" thru 5.750"; hubless rotors and drums thru 1 ton vehicles, double chuck, three backing plates.

AMMCO940928 Adaptor Set. 1" I.D.; 4 x 4 pressed rotor adaptor.

AMMCO909197 Double Tape Adaptor. 1" and 1 7/8" I.D. (2.828" thru 3.185") for tapered bearing races.

AMMCO909198 Double Tape Adaptor. 1" and 1 7/8" I.D. (3.203" thru 3.560") for tapered bearing races.

AMMCO903481 Arbor Set. 1 7/8" I.D., trucks and rotors up to 200 lbs. Includes arbor, arbor nut and wrench. For EEBR309ABP lathe.

AMMCO903491 Arbor Set. 1 7/8" I.D., trucks and rotors up to 200 lbs. Includes arbor, arbor nut and wrench. For EEBR308ABP lathe.

AMMCO940420 Carbide Bits. For Hunter lathes. Carbide insert (negative rake) bit kit contains 10 bits per package.

AMMCO940435 Carbide Bits. For Accu-Turn lathes. Carbide insert (positive rake) bit kit contains 10 bits package.

AMMCO940610 Round Bits. Round (positive rake) replacement toolbits for AMMCO940630 Toolbit Holder. Pack of 10.

AMMCO940630 Round Bits Tool Holder. Round bit tool holders can be used with EEBR308A or EEBR309A.

BTF10 Insert Bit Kit. For all FMC lathes with replaceable insert feature.

BTA10 Insert Bit Kit. For Ammco models 3000, 4000, 4100, 6900, 7000, and 7700 Disc Rotor Lathes.

BTK10A Carbide Insert Bit Kit. For all Kwik-Way lathes with replaceable insert feature as well as older Snap-on® lathe models YA282 series, YA278A series and YA277 series.

Brake Lathe and Bleeder Kits Brakes

EAK0221J00A



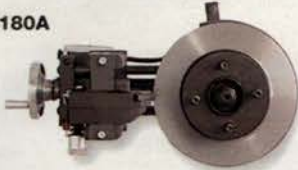
Medium Duty Truck Cone Kit

EAK0221J00A Medium Duty Truck Cone Kit. Designed for use on wheels from 1.5 ton and greater medium duty trucks. Applications include Ford F450, F550 and F650 steel wheels. For use with all Snap-on® WB and EEWB Series Wheel Balancers. Kit includes EAM0003J01A Spacer (28.5 mm) and EAM0003J00A Cone (28.5 mm).

EAM0003J00A Cone. Pilot hole capacity is 6 1/4" to 7 1/4".

EAM0003J01A Spacer. Outside diameter of 9 1/4". Inside diameter of 7 3/4". Total depth of 2 3/8".

YA180A



YA189



Front Wheel Drive Disc Brake Lathe

YA180A FWD Disc Brake Lathe. Use for on-the-car machining of front wheel drive rotors. Mounts in place of the caliper. Vehicle engine turns disc during the machining process. Special mount fixture reduces set-up time by providing a quick-reference for spacer requirements and correct link spacing as well as cutting tool centerline. GM Bolt Kit (11mm) allows YA180A to be used on newer GM cars.

Extension kit includes 3.25" slotted and support links along with 6.38" left and right tool holders to machine rotors on 4-wheel drive vehicles, 1-ton trucks and other large rotor applications. Disc capacity 4" to 16". Maximum rotor thickness is 1.5".

Maximum rotor diameter is 12.5". Feed rate is .002" to .006". Lathe includes metal storage box and instructional video.

YA189 Power Feed. Designed to adapt to the YA180A Disc Brake Lathe.

YA280 Disc Brake Power Drive. Use with YA180A as a power source for turning the rotor without relying on the vehicle's engine. Fully adjustable drive hub fits most 4, 5 and 6-bolt hubs. Fully adjustable from 33" to 56". 1/2 HP motor, 1750 RPM (135 RPM final drive). 120VAC, 60 Hz, single phase.

BB200B



BB200A-1



Vacuum Type Brake Bleeder Kit

BB250C Complete Brake Bleeder Kit. Includes BB200B Brake Bleeder and BB200A-1 Single Refiller System. Use only DOT3, DOT4 or DOT5 Automotive Brake Fluid with this brake bleeder. Do not use any other fluids, oils, chemicals or solvents.

BB200B Brake Bleeder Kit. Built-in venturi system uses compressed air to create a powerful vacuum that bleeds and flushes hydraulic brakes and clutches. Works on all styles of brake systems, motorcycle brakes, hydraulic clutches on buses and trucks plus ABS systems and other large hydraulic systems. Large 2.6 quart container provides greater stability and easier operation. Universal drain valve permits connection to most standard recycling systems. No special bleeding adaptors are required. Working air pressure is 80 to 175 PSI (5.5-12 bar). Air consumption is 4.5 cfm [130 l/min] (6 bar). Threaded connection is 1/4" NPT. Hose length of 10 ft. (254 mm). Use only DOT3, DOT4 or DOT5 Automotive Brake Fluid with this brake bleeder. Do not use any other fluids, oils, chemicals or solvents.

BB200A-1 Single Refiller System. Use with BB200B to automatically replace brake fluid during bleeding. Fits most cars with round master cylinder reservoir inlet, "flat-top" style, or dual inlet master cylinder reservoir.

BB300B



Diaphragm-Type Brake Bleeder Kit

BB300B Bleeder Kit. Services all basic brake systems as well as most imports, domestic trucks, and buses. 0 to 60 PSI pressure gauge range. Built-in heavy-duty safety valve opens at 55 PSI and releases at 25 PSI. Unit has a large four-gal. reservoir. 12' long hose features quick coupler and automatic fluid shut-off valve. Extension handle and three swivel casters provide easy mobility. Includes BB300B29G, BB300B39GC, and BB300B41-G9 Adaptors plus two bleeder hoses, automatic fill nozzle, syringe, fill funnel, and plastic cup. Use only D.O.T. 3, D.O.T 4 or D.O.T 5 Automotive Brake Fluid with this brake bleeder. Do not use any other fluids, oils, chemicals or solvents.

The BB300B Brake Bleeder Kit will service domestic and imported cars and light trucks from almost every major manufacturer. See your Snap-on representative for a full list of automotive applications. Acura, Alfa-Romeo, American Motors, Audi, BMW, Buick, Cadillac, Chevrolet, Chrysler, Dodge, Ford, Geo, GMC, Honda, Hyundai, Infiniti, Isuzu, International Harvester, Kia, Lexus, Lincoln, Mazda, Mercedes Benz, Mercury, Mitsubishi, Nissan, Oldsmobile, Pontiac, Peugeot, Porsche, Saturn, Subaru, Suzuki, Toyota, Volkswagen, Volvo.

BB300B Brake Bleeder Kit Adaptors

	Description
BB300B17FF	VW Air Cooled Adaptor
BB300B19	VW Water Cooled Adaptor
BB300B20	Dual Bleeding Attachment
BB300B21	Pop-off Valve
BB300B22A	Adaptor Set, 7 pcs.
BB300B26G	Universal Adaptor
BB300B29G	3 1/4" Universal Round Adaptor
BB300B35G	Universal Adaptor
BB300B36G	GM Dual Reservoir Adaptor
BB300B39GC	GM/Chrysler Plastic Reservoir Adaptor
BB300B41-G9	Universal Rectangular Adaptor
BB300B42G	Universal Adaptor
BB300B45-G9	Universal Round Adaptor
BB300B47G	Chrysler Adaptor



WARNING

• Read additional safety precautions on pages M1 to M4.



See Warranty Information on inside front cover.

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Brakes Brake Bleeder and Service Tools

YA8925



Master Cylinder Pressure Cap

YA8925 Master Cylinder Pressure Cap. Has M45 x 3.50 thread that adapts to fluid reservoir and 1/4"-18 and 3.5mm thread for the pressure bleeder. For Mercedes, BMW, Audi, and Porsche.

BB100B



Non-Diaphragm Type Brake Bleeder

BB100B Brake Bleeder. One gallon capacity unit features a self-contained, hand-pressurized pump, more than 10' of hose with shutoff, pressure gauge, and quick coupler for use with other brake bleeder adaptors (such as any of the BB300B Adaptors). Use only D.O.T. 3 or D.O.T. 4 Automotive Brake Fluid with this brake bleeder. Do not use any other fluids, oils, chemicals or solvents.

BCS70A



General Service Sets

BCS70A Disc Brake Caliper Driver Set. For domestic vehicles (except Chrysler). Comes on A265 Socket Rail and Clips. 7 pcs. include:

FA8E	1/4" Hex Driver	FAM8E	8 mm Hex Driver
FA10E	5/16" Hex Driver	FTX40E	T40 TORX® Driver
FA12E	3/8" Hex Driver	FTXB45E	T45 TORX® Driver
		FTXB50E	T50 TORX® Driver

BTK5



BTK5 General Service Set. 5 pcs. in a plastic tray include:

1/4" Drive:

TM4B 5 3/4" Long Shank Driver

Brake Tools:

131A	Spring Pliers	S6110A	Bleeder Wrench, (GM, Datsun, and Honda)
B1461	8 1/4" Adjuster	S6118A	1/4" Drive Spring Cap Socket

BTK7A 7 pcs. in a plastic tray include:

Brake Tools:

B1356E	Spring Tool	BT11	Spring Tool
B1458C	9" Bleeder Wrench	S6112	Bleeder Wrench
B1461	8 1/4" Adjusting Tool	B1467A	Bleeder Wrench (for GM, Ford, and Chrysler)
B3404B	Adjusting Tool (for Bendix self-adjusting brakes and brakes with star adjusting nut)		



BTK7A

S6404B



BT26



BT11



131A



S6118A



BT19



BT13



BT14



BT15



BT16



BT17A



Brake Spring Tools

S6404B Brake Spring Tool. Services beehive-type brake shoe retainer spring on Bendix brakes.

BT26 Single Brake Spring Tool. Easy to use tool releases tension on large GM single brake springs for quick brake servicing. Applications on 1997 and later GM H body (Pontiac Bonneville, Buick LeSabre and Olds Delta 88), 1992 and later GM C and U body (Buick Electra, Olds 98, Cadillac Fleetwood, Cadillac DeVille, Chevy Lumina APV, Pontiac Tran Sport and Olds Silhouette) and 1995 and later Chevy Lumina and Chevy Monte Carlo.

BT11 Brake Spring Tool. Services Bendix brake springs. Also works on any spring attached to post. Socket end removes; hook end replaces. 9 3/4" long.

131A Brake Spring Pliers. Removes or replaces Bendix, Lockheed, and other hydraulic and mechanical brake springs. Steel hook on jaw is replaceable. Handles provide socket-type spring remover and hook end replacer. 13 1/4" long.

31-3B Replacement Hook. For 131A Brake Spring Pliers.

S6118A Spring Cap Socket. 1/4" drive double-ended socket is designed for subcompact brake spring on one end and the larger domestic cars and light trucks on the other. Industrial finish. Use with TM4B Driver.

BT19 Heavy Duty Brake Spring Tool. BT19 Brake Spring Tool. Heavy duty design. Remove or install import and domestic brake springs with or without anchor pins. Maximum wire I.D. is 1/4", overall length of the tool is 8 7/8".

BT13 Installer. Installs brake springs on 1979 and later GM brakes on X, J, A, and N body styles. Industrial finish. 8 15/16" long.

BT14 Remover. Hook on shank end for removal of brake springs on 1979 and later GM rear brakes on X, J, A, and N body styles. Industrial finish. 8 15/16" long.

BT15 Remover. For removing brake springs on full-size cars and pick-ups with drum-style brakes. Industrial finish. 8 15/16" long.

BT16 Installer. For all full-size cars and pick-up trucks with older drum-style brakes. Industrial finish. 8 15/16" long.

BT17A Retainer Spring Tool. For use on 5/8" diameter retainer springs found on most newer vehicles. Industrial finish. 8 15/16" long.

B1356E Brake Retainer Spring Tool. Similar to BT17A but for 3/4" retainer spring caps. Industrial finish.

Brake Service Tools Brakes



CM6302



CM6202



CM6469



CM6459



GA3634

Disc Brake Gauges and Micrometers

CM6302 Indicator Gauge. Range of .300" to 1.300" with graduations of .001". Extra-deep (3 1/2") throat makes it easy to measure most car and light truck rotors. Features pointed anvil to measure groove depth and a 1" standard.

CM6202 Micrometer. Range of .300" to 1.300" in .001" graduations. Extra-deep (3 1/2") throat measures across entire braking surface. Also measures rotor thickness, thickness variation, and score depths. Features friction stop, spindle lock, and a pointed anvil. Includes 1" standard, 5/64" hex wrench, and plastic storage pouch.



CM6456A

Brake Drum Gauges

CM6456A Brake Drum Gauge. Indicates .060" wear limit for brake drums. Shows measurements in both inch (6" to 14 1/4") and metric (150 to 360mm) scales. Also includes .120" wear limit indicator.



S5929A



S9523

Truck Brake Adjusting Tools

S5929A Brake Adjuster. Extra long for hard-to-reach adjusters found on some Ford light-duty and medium-duty trucks. Each tip is 1/4" wide and 1/10" thick. One tang is straight, the other is bent at the 45° angle. 12" long.

S9523 Brake Adjuster. Star-nut turning tool for Chevrolet trucks with overload springs. Different angles at each end of tool for clearance. Blades are 17/32" wide. Tool is 5 1/4" long.



S9153B



B3404B



S5912



B1462A



B1461



S6004

Automotive Brake Adjusting Tools

S9153B Brake Adjuster. Designed to work around obstructions on GM vehicles. Blades are 1/2" wide; tool is 7 7/8" long.

B1462A Brake Adjuster. For rear brakes of those cars and trucks with trailing arm bolts. Tang at each end is set at 68°, but in opposite directions for use on left and right-hand sides. 8 1/2" long.

B3404B Brake Adjuster. For Bendix self-adjusting brakes and other brakes with star adjusting nut (except Chevrolet). Blades are 17/32" wide with 1/32" tip thickness. 8 3/16" long.

B1461 Brake Adjuster. One end has a wide tang set at a 29° angle for rear brakes; the other end is set at a 45° angle for front brakes. 8 1/4" long.

S5912 Brake Adjuster. For use on VW, Mazda, Omni and Horizon. Each tang tapers to a 1/4" tip width. One tang is straight; the other is offset 45°. 8 1/2" long.

CM6212 Micrometer. Similar to CM6202 except its range is 7 to 32mm in .01mm graduations.

CM6469 Digital Brake Drum Gauge. Range is 0 to 14.350" in .001" graduations and 0 to 365mm in .01mm graduations. Features include easy-to-read digital read-out, 3.25" deep arms, selectable depth stops and pointed anvils. Inspect drums before turning by measuring scores and checking for bell mouth.

CM6459 Digital Brake Rotor Gauge. Range is 0 to 2.250" in .001" graduations and 0 to 58 mm in .01mm graduations. Measure the entire braking surface on all rotors quickly and easily. Features include digital read-out, easy-to-read LCD, 3.25" (82 mm) deep arms, pointed anvil and depth rod. Measure thickness, thickness variation and score depth. Self-calibrating.

GA3634 Ball Joint/Disc Brake Test Indicator Set. Range 1.00". Graduations .0005". Reading 0-50. Check ball joint wear, brake rotor runout, gear backlash and valve guide or camshaft wear. Special locking pliers clamp securely to any convenient object. Eliminates vibration problems and false readings by mounting directly on spindle. Includes CM6563450 Plastic Case.



B1468



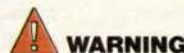
B1469

B1468 Brake Adjuster. For use on 1952 and later GMC and Chevrolet 1 1/2 and 2-ton trucks. Tips on each end are bent 45° and then twisted 45° to allow access to brake-adjusting mechanism. 9 1/4" long.

B1469 Brake Adjuster. Extra long for increased leverage. Designed for use on GM, Ford, and Dodge light and medium-duty trucks. 9/16" wide tangs with .080" top thickness. 13 7/8" long.

S6004 Brake Adjuster. For use on 1969 and later Toyota when self-adjusting brakes are being dismantled. One end is offset 15°, the other 60°. Each tang tapers to a 1/4" tip. 5 1/4" long.

S6005 Brake Adjuster. Similar to S6004. For use on 1969 and later Toyota when a complete dismantling of the self-adjusting brakes is required. One end is angled at 60°; the other end features a special offset. Each tang tapers to a 1/4" tip width. 5 1/4" long.



WARNING

• Read additional safety precautions on pages M1 to M4.

See Warranty Information on inside front cover.

E92

Brakes Brake Service Tools



Disc Brake Tools

YA8610A Universal Brake Caliper Tool Set. Assists in replacement of brake pads on most 4-wheel disc brake cars. Tool and adaptors position brake piston back into caliper to allow clearance for newer, thicker brake pads. Designed for most GM, Ford, Nissan, Honda, Toyota, Subaru, Mitsubishi, Saturn, Audi, Mazda and late-model VW, plus Chrysler A, C, E, G, and J bodies 1987 and later. Set includes one tool and six adaptors in a plastic case.

SVT700 Brake Equalizer. Two gauges included in a plastic case. One mounts in place of each brake pad for determining if caliper pressure is equal. Troubleshoot such things as sticky calipers, uneven pad wear, worn master cylinders, power booster problems, etc. 0 to 5000 PSI high pressure gauges are mounted to steel reinforced hoses.

BCS70A Disc Brake Caliper Driver Set. For domestic vehicles (except Chrysler). Comes on A265 Socket Rail and Clips. 7 pcs.

FTSM6E Triple Square Cap Screwdriver. For VW disc brake caliper. 6mm, 3/8" drive. 1 7/8" long.

YA2440 Pad Spreader. For use on most domestic and import cars and light-duty trucks with single piston disc brakes without parking brakes. Compresses the disc brake piston for easy pad installation.

GA395 Spreader. For standard four-piston caliper disc brakes. Frees hands to assemble caliper over rotor. 6 3/4" long.

BL55A Brake Cylinder Retainer Remover. Used on late-model GM cars including X-body cars. Expands and holds retainer for cylinder disassembly or assembly.

YA9329A Piston Rotation Tool. Use to rotate piston back into caliper cylinder when replacing pads. Also rotates parking brake cylinder back into the caliper cylinder on vehicles with four-wheel disc brakes. For 1975 and later Ford and Mercury plus some imports.

PH1100 Brake Pin Installer. Use with air hammer to quickly install adjuster pins in brake shoes. Use with air hammer that accommodates a 0.401" shank. Tip inside diameter is 0.39". Tip depth is 0/40". Overall length of 6".

BT350 Piston Brake Press. Applications include most cars plus light and heavy duty trucks. Presses single or dual pistons. Quick and easy to use-no nuts or bolts involved in pressing operations. Made in U.S.A.



Truck Brake Tools

B1359B Brake Shoe Remover. For use on Chrysler and Ford 3/4-ton trucks equipped with Bendix brakes. U-shaped end is offset 30° to 45° for easy removal of brake shoe to backing plate spring. 1/4" shank diameter, 6 13/16" long. 9 1/4" long overall. Industrial finish.

BT518 Brake Shoe Tool. For large trucks and trailers with air brakes with "S" cam design. Provides leverage to back out brake shoe and remove roller cam. Industrial finish.

BT12 Brake Spring Tool. Services brake shoe retracting springs on trucks using Bendix, Wagner, and Kelsey-Hayes systems. Unique shape permits access and leverage.

CJ108B Brake Pin Remover. Removes large pins securing brake shoes. Use a 7/8" box wrench to turn the screw, or an impact wrench to speed the job. For extra-heavy-duty work, the CG430HYB King Pin Press, provides 20 tons of controlled hydraulic power.

231 Brake Spring Pliers. Services heavy brake shoe return springs on some models of Huck, Lockheed, Wagner, and other trucks. Use optional replacement spoon to handle most large trucks, tractors, and heavy equipment. 20 1/4" long.

231-3A Replacement Hook. For 231 Brake Spring Pliers.

331-3 Optional Slotted Spoon. For 231 Brake Spring Pliers.

YA9070A Rear Brake Adjusting Tool. Use on single-axle Lucas-Girling brakes found on 1984 and later F-600 and larger Ford trucks and buses. Has all the right angles to reach through the backing plate. Industrial finish.

Brake Service Tools Brakes

SVT80097



SVT800U97



SVT760



Automatic Brake System

SVT80097 ABS and Brake Pressure Test Kit. Use to monitor all standard and ABS domestic and import braking systems. Diagnose brake pull, uneven wear, and master cylinder problems. Tests both line pressure and ABS accumulator pressure. Includes two gauges that range from 0 to 3000 PSI. Packaged in a plastic case. Training manual included.

SVT800U97 ABS and Brake Pressure Test Update Kit. Updates older SVT80096 ABS & Brake Pressure Test Kits to handle ABS brake testing of vehicles equipped with Delco III Systems like Buick Regal, Cutlass Supreme, Pontiac Grand Prix and Jeep Cherokee. Includes 90° adaptor with M14 x 1.5 female and M14 x 1.5 male threads plus current instruction manual with up-to-date vehicle specific look-up tables.

SVT760 Brake Fluid Safety Test Kit. Enables testing of brake fluid to check for moisture content. The unit connects to the vehicle's 12V battery, while the probe end inserts into the brake fluid reservoir. A comprehensive user's manual and plastic case are included.

SVT760 Specifications

Accuracy 100° to 800° C	1% typical, 3% max.
Accuracy above 800° C	3% typical, 5% max.
Brake Fluid Compatibility	Dot 3, Dot 4, and Dot 5.1
Operating Temperature Range	32° to 150° F
Operating Voltage	12VDC at 6.5A 8.0 A max.
Relative Humidity	10% to 85% non-condensing
Storage Temperature Range	-13° to +185° F
Test Time	15 to 45 seconds

CE Conformity



B1467A

B1458C



Bleeder Wrenches

S6110A Bleeder Wrench. For GM, Nissan, and Honda. 8mm, 6-point box end; 10mm on the other. Ends are offset for clearance. 7 9/16" long.

B1460B Bleeder Wrench. Similar to S6110A. Has a 3/8" box end for brake bleeding work and a 7/16" box end for brake shoe eccentric bolt adjustment. Offset clears drag link arm and recessed backing plate on front wheel. 9 1/2" long.

B1467A Bleeder Wrench. For GM, Ford, and Chrysler. Similar to S6110A. 5/16" and 3/8" single hex box ends are offset for access to bleeder fittings. 8 1/2" long.

S6143 Bleeder Wrench. For most imports. Similar to S6110A. 7 and 9mm, 6-point box ends are offset for clearance. 8 1/2" long.

B1458C Bleeder Wrench. Includes 1/4" and 3/8" single hex box ends. 9" long.

B1463A Bleeder Wrench. For smaller bleeder fittings on most compact cars. 1/4" to 3/8", 6-point box ends are tapered for clearance. 3 3/4" long arms.

S8184 Bleeder Wrench. For fittings on most GM autos. Similar to B1463A. 3/8" and 5/16", 6-point box openings. 4" long arms.

B1470 Bleeder Wrench. Similar to B1463A. For late-model GM and most imports. 8mm, 6-point box end; 10mm on the other. Wrench has a 90° bend for access. Arms are approximately 4" long.

S6112 Bleeder Wrench. For some GM and Toyota, plus other imports. Similar to B1463A. 8mm, 6-point box on one end; 10mm on the other. Wrench has 90° bend for access. Arms are 5 1/8" long.

Socket

PMP406A Internal Square Socket. For rear brake adjustments on 1973 to 1986 Subaru. 3/8" drive, 6mm internal square socket.

PMP406A



WARNING

• Read additional safety precautions on pages M1 to M4.



See Warranty Information on inside front cover.

Brakes Brake Service Tools

Brake Caliper Brushes

WV43043 Brake Caliper Brush. WV43043 Brake Caliper Brush. Allows easy cleaning of brake calipers in confined areas without damage to hydraulic components. Hardened wire bristles resist flaring of wire.

Stock No.	Trim	Trim Length, inches	Brush Length, inches	Overall Length, inches
WV43043	Tapered	5/8 - 7/8	3 1/2	9

SIML160

BT22A

BR1

Emergency Brake

SIML160 Socket. Use for removing or replacing fuel tank retaining strap nuts. Also has applications on emergency brake adjustment nuts and stabilizer retainers. 1/2" square drive; 1/2", 6-point wrench opening. Industrial finish. 5" long.

SIML180 Socket. Same design as SIML160, except hex size is 9/16".

BT22A Parking Brake Cable Tool. Designed to remove parking brake cables from the brake backing plate and chassis mounting bracket. Double ended tool has Ford Escort, Topaz and Tempo applications on one end; while the larger end services most other vehicles.

BR1 C-Ring Pliers. Opens the C-ring on the emergency brake actuation lever when changing rear brake shoes on many domestic cars, trucks, and imports.

BR2 C-Ring Pliers. Holds the C-ring without slipping during installation.

Brake Tube Bending Pliers

BT21700 Brake Tube Bending Pliers. Dual size design enables bending 3/16" and 1/4" tubing. Can make small bends at the end of brake lines to provide the proper angle for the attachment of the fitting to master cylinder, wheel cylinder, clutch slave cylinder, proportion valves and ABS units. Flat end acts as a sawing guide for a straight cut on tubing. Compact shape for making tight bends in restricted areas. Black industrial finish with red plastic handle grips. Overall length of 9 1/4".

Hones

Two-Arm Hones and Stone Sets

JT64 Two-Arm Hone. For 1/2" to 2 1/4" diameter cylinders. Includes two medium grit stones, each 1 1/8" long.

JT64-1. Set of two medium (220 grit) stones for JT64. 1 1/8" long.

JT64-14. Set of two fine (400 grit) stones for JT64. 1 1/8" long.

Three-Arm Hones and Stone Sets

CF63 Three-Arm Hone. For 3/4" to 2 1/2" diameter cylinders. Adjustable thumb nut to control tension.

CF68 Three-Arm Hone. For 1 1/4" to 3 1/2" diameter cylinders. Adjustable thumb nut to control tension.

Stone Sets for CF63 and CF68.

CF63-100 Stone Set	100 (3), 1 1/8" long.
CF63-1 Stone Set	240 (3), 1 1/8" long.
JT63-21 Stone Set	220 (3), 2" long.
CF63-34 Stone Set	240 (3), 3/4" long.
CF63-14 Stone Set	400 (3), 1 1/8" long.
JT63-24 Stone Set	400 (3), 2" long.

Disc Brake FLEX-HONE®

Silicone carbide laminated to ends of high-density bristles and attached to flexible shaft. Consistent cross-hatch for oil retention. 5" long. **Not available for export.**

BCD38.	38mm (1 1/2"). 180 grit.	BCD45.	45mm (1 3/4"). 180 grit.
BCD54.	54mm (2 1/8"). 180 grit.	BCD64.	64mm (2 1/2"). 180 grit.
BCD79.	79mm (3 1/8"). 180 grit.	BCD540.	54mm (2 1/8"). 320 grit.
BCD640.	64mm (2 1/2"). 320 grit.		

Brake Service Tools



Throttle Depressor / Brake Resetting Gauge

B240B Throttle Depressor. Holds throttle at a constant RPM. Easily adjusts to desired length. Adjustment screw fine tunes desired RPM. Rubber tip keeps the tool firmly positioned on the accelerator pedal. Overall length of 40" (102cm). Can also be used as a pedal depressor.

YA2780 Brake Resetting Gauge. Automatically sets brake shoe size when measuring against drum walls. Positive locking section ensures an accurate reading every time. Improved range of 6.5" to 13.25".

YA4000A



Pump Kit

YA4000A

Combination Vacuum and Pressure Kit.

Use to test any part of any system that requires proper sealing or vacuum to operate. Also use to transfer fluids and bleed brakes. Includes replaceable gauge with range of 0 to 30" mercury (0 to 76mm Hg) mounted to a vacuum pump with fluid-resistant valves. Also includes reservoir jar, transfer cap, storage cap, four lengths of 1/4" tubing, one length of 5/32" tubing, assorted adaptors, user's manual, and plastic storage case.

YA4006 Reservoir Jar. Large 16 ounce jar stores and protects contents from contaminants. Threaded jar and lid with ounce and milliliter graduation markings. Three times the capacity of standard jar. Plastic to avoid breakage.

Standard Brake FLEX-HONE®

Silicone carbide laminated to ends of high-density bristles and attached to flexible shaft. Consistent cross-hatch for oil retention. 5" long. **Not available for export.**

BCM14.	14mm (.552"). 180 grit.	BCM18.	18mm (.709"). 180 grit.
BCM20.	20mm (.787"). 180 grit.	BCM22.	22mm (.875"). 180 grit.
BCM25.	25mm (1"). 180 grit.	BCM29.	29mm (1 1/8"). 180 grit.
BCM35.	35mm (1 3/8"). 180 grit.	BCM41.	41mm (1 5/8"). 180 grit.
BCM51.	51mm (2"). 180 grit.	BCM220.	22mm (.787"). 320 grit.
BCM250.	25mm (1"). 320 grit.	BCM290.	29mm (1 1/8"). 320 grit.
BCM350.	35mm (1 3/8"). 320 grit.		

BCM103 FLEX-HONES® Set. BCM18 thru BCM29 (5 pcs). For standard cylinders on medium and large cars.

Disc Brake Rotor FLEX-HONE®

For disc brake rotors and flywheels. Silicone carbide is laminated to ends of high-density bristles and attached to a flexible shaft. Consistent cross-hatch for oil retention. 2 1/4" diameter, 2 1/2" length. **Not available for export.**

RMFH120Z25.	120 (Medium) grit.	RMFH240Z25.	240 (Fine) grit.
RMFH60Z25.	60 (Coarse) grit.		

Midrise Lifts Above Ground Lifts

Standard Features

- Space-saving scissors lift raises vehicle straight up with no fore or aft movement.
- 48" lift height facilitates bodywork and tire, wheel, or brake service.
- Low 4 7/8" drive over height allows lift to be easily positioned under a disabled vehicle.
- One-piece solid deck accommodates cars, trucks, motorcycles, small engines and many large, odd-shaped parts.
- Adjustable frame contact lifting arms rotate through 360° permit lifting at any factory approved frame lift point.
- Pad style lifting with four standard lift blocks. Optional truck adaptors are available.
- Newer safety features include five-position mechanical safety, foot pedal release of safety locks and twin cylinders with flow control monitoring system.
- Oilite bushings at hinge points for maintenance free operation.
- Power pack doubles as a tow cart to enhance portability.

EELR338A Mid-Rise Scissor Lift. Serves a wide range of cars, light trucks, and vans. Ideal for tire shops, brake and wheel alignment shops, rustproofing operations, transmission shops, and more. Power pack with 12' hose and quick-disconnect are standard. Power pack also doubles as a tow cart to provide convenient flexibility for using the lift in multiple locations. Low drive over height allows lift to be easily positioned under a disabled vehicle.

EELR339A Mid-Rise Scissor Lift. Same as EELR338A but uses a 100-PSI air motor.



EELR338A



EELR319A

EELR338A/EELR339A Specifications

Electric Motor (EELR338A)	120VAC, single phase
Air Motor (EELR339A)	100 PSI
Maximum Capacity	6500 lb.
Down Position Height	4 7/8" (124mm)
Lift Time, seconds	60
Overall Length (lowered)	81.5
Overall Width (with arms in)	37"
Shipping Weight, lbs.	1,032
Raised Height (Flip Pads Down)	48" (1220mm)
Raised Height (Flip Pads Up)	52 3/4" (1340mm)

Accessories for EELR338A/EELR339A

Stock No.	Description
EELR313A	Rubber Frame Contact Lift Blocks (set of four)
EELR314A	Hi-Lift Truck Adaptors (set of two)

Motorcycle Lifts

EELR319A Motorcycle Scissors Lift. Equipped with a removable rear ramp section and front wheel locator, raised working height of 40", handle grip controls for hydraulic operation and safety release mechanism. The EELR319A Motorcycle Lift includes these important and professional features: heavy duty efficient design, easy drive-on runway, hide-away approach ramp, removable rear access runway, smooth and quiet hydraulic operation, mechanical safety system, removable Posi-Grip wheel locator, chemical resistant plastic coating and two pole, 3-wire, 120VAC, 20 amp plug. See Brochure SS1587 for more information.

EELR319A Specifications

Overall Length, inches (mm)	89 (2261)
Capacity, LBS. (kgs.)	1500 (680)
Down Position Height, inches (mm)	6 (152)
Lift Time, seconds	15
Maximum Lifting Height, inches (mm)	48 (1219)
Overall Length with Optional Port Kit, inches (mm)	101 (2565)
Overall Length with Optional Side Kit, inches (mm)	112 (2845)
Overall Width with Optional Port Kit, inches (mm)	48 (1219)
Overall Width with Optional Side Kit, inches (mm)	51 (1295)
Electrical Requirements	120VAC, 15amp, 1Ph. 60Hz
Shipping Weight, lbs. (kgs)	250 (113)
Overall Width, inches (mm)	27 (686)

EELR319ATDK Desperado Tie Down Kit. (complete with 2 tie downs and 2 soft ties).

EELR319AFEK Front Extension Kit. Increase overall length to 101" for custom bikes. Key hole cutouts simplify positioning of wheel locator or tire gripper.

EELR319APKT Towcart and Outrigger Kit. Allows easy relocation of lift in the shop area.

EELR319ASRK Side Rail Kit. Increases runway width to 51" for snowmobile, ATV, or golf cart.

EELR319APTG "The Gripper" Pneumatic Tire Grip for Desperado.

EELR319AJK Multi-Purpose Jack Lift. Low profile, multi-purpose jack for use on motorcycles, ATV's, golf carts and other small vehicles. Use by itself or in conjunction with EELR319A Motorcycle Lift. Low, 2 3/4" profile. Anodized finish protect against corrosion. Easy-to-use 5-position adaptors provide greater versatility. Heavy duty ACME thread and steel rollers provide a smooth scissors action when lifting.

EELR319AJK Specifications

Capacity, lbs. (kgs.)	700 (317.5)
Height/Lowered Position (without adaptors), inches (mm)	2 3/4 (69.9)
Height/Raised (without adaptors), inches (mm)	10 1/2 (266.7)
Height/Raised (minimum adaptor), inches (mm)	16 (406.4)
Height/Raised (maximum adaptor), inches (mm)	19 (482.6)
Overall Length, inches (mm)	23 1/4 (590.6)
Overall Width, inches (mm)	6 (152.4)
Shipping Weight, lbs. (kgs)	40 (18.2)



WARNING

- Read additional safety precautions on pages M1 to M4.



Above Ground Lifts Scissors Lifts

Double Scissors Lifts

Both the EELR320A (flush mount) and EELR231A (surface mount) Double Scissor Lifts feature 21 1/2" wide lift platforms (length 60" to 83" extended) and provide an efficient space saving scissors design with wheel free action. Both lifts include these professional features: easy drive-on runway, air actuated safety release mechanism (requires 125 PSI), user-friendly control consoles, hydraulically synchronized operation, automatic level adjustment, low drive over height, and audible chime for operator safety.

EELR320AFK In-ground Frame Installation Kit. For use with EELR320A and EELR321A Double Scissors Lifts.

EELR320ARBLG Large Rubber Lift Blocks. 3" Rubber Lift Blocks (set of four) for use with EELR320A and EELR321A Double Scissors Lifts.

EELR320ARBSM Small Rubber Lift Blocks. 1 1/2" Rubber Lift Blocks (set of four) for use with EELR320A or EELR321A Double Scissors Lifts.

EELR320ARC Remote Control. For use with EELR320A or EELR321A Double Scissors Lifts. (16' Cord).

EELR320ARP Rubber Runway Pads. 15" x 18" Rubber Runway Pads (set of four) for use with EELR320A or EELR321A Double Scissors Lifts.

Specifications	EELR320A	EELR321A
Capacity, lbs. (kgs.)	7000 (3492)	7000 (3492)
Collapsed Height, inches (mm)	0 (0)	11 3/4 (300)
Maximum Raised Height, inches (mm)	69 (1753)	80 1/2 (2045)
Overall Width, inches (mm)	74 (1880)	76 1/2 (1940)
Platform Length, inches (mm)	60, 83 extended (1530, 2130 ext.)	60, 83 extended (1530, 2130 ext.)
Electrical Requirements	240VAC 1 Ph - 60 Hz	240VAC 1 Ph - 60 Hz
Shipping Weight, lbs. (kgs)	1543 (700)	1760 (800)
Width Between Runways, inches (mm)	31 1/2 (800)	31 1/2 (800)

CE Conformity

EELR320A



EELR323A



Heavy Duty Truck / Bus Lifts

Snap-on now offers the latest in heavy duty bus and truck space saving scissors lifts. All four lifts in the series (EELR322A/323A/342A/325A) deliver the same great features and benefits at different capacity loads.

- 32" Wide Runways—Provide "easy on, easy off" access to the lift
- Clear Open Design—No crossmembers (torsion bars) in front or rear
- Positive Locking Air Actuated Safety Release Mechanism
- Versatile Full Rise, Full Service Lift
- Safe Lifting—Lift rises straight up with no fore or aft movement
- User friendly Console Controls
- Hydraulically Synchronized Operation
- Auto-Leveling Feature senses and adjust level
- Automatic Wheel Stops front and rear
- Multiple Installation—Can be mounted above ground or flush
- Audible lowering chime for operator safety

EELR322ADR Drive Off ramps. For the EELR322A, EELR323A, EELR324A and EELR325A Heavy Duty Scissors Lifts.

Specifications	EELR322A	EELR323A	EELR324A	EELR325A
Capacity, lbs. (kgs.)	22,000 (9,900)	44,000 (19,800)	66,000 (34,980)	88,000 (39,864)
Collapsed Height, inches (mm)	15 1/8 (385)	15 1/8 (385)	15 1/8 (385)	15 1/8 (385)
Lift Platform Width, inches (mm)	32 1/4 (820)	32 1/4 (820)	32 1/4 (820)	32 1/4 (820)
Lift Time, seconds	60 seconds	60 seconds	60 seconds	60 seconds
Maximum Lifting Height, inches (mm)	65 (1,650)	65 (1,650)	65 (1,650)	65 (1,650)
Overall Length, inches (mm)	307 (7,800)	374 (9,500)	492 (12,497)	630 (16,000)
Overall Platform Length, inches (mm)	228 (5,800)	295 (7,500)	414 (10,515)	560 (14,220)
Overall Width, inches (mm)	96 1/2 (2,450)	96 1/2 (2,450)	96 1/2 (2,450)	96 1/2 (2,450)
Electrical Requirements	220VAC/480VAC, 3-phase, 60 Hz	220VAC/480VAC, 3-phase, 60 Hz	220VAC/480VAC, 3-phase, 60 Hz	220VAC/480VAC, 3-phase, 60 Hz
Shipping Weight, lbs. (kgs)	6,600 (2,970)	12,100 (5,445)	19,800 (8,969)	24,200 (10,962)

Jacking Beams for EELR322A, EELR323A, EELR324A, EELR325A

EELR327A 12K Jacking Beam

EELR328A 18K Jacking Beam

EELR329A 25K Jacking Beam

EELR330A 35K Jacking Beam

Twin Post Lifts Above Ground Lifts

EELR326A Wheel Free Twin Post Lift. A 9,000 lb. capacity twin post lift with full hydraulic equalization. The lift features ten angle, rotated roll-formed columns with triple safety system. It includes a pilot operated check valve, velocity fuse and mechanical safety locks with single point release mechanism. It also features automatic arm restraints and smooth glide operation. The EELR326A has three-position flip pads and a durable plastic coated finish.

EELR334A Turf Equipment Twin Post Lift. Dual-use lift has a 6000/9000 lb. capacity and is specifically designed for use with lawn maintenance equipment and golf carts as well as cars, light trucks, and vans. Requires a ceiling height of only 12 feet. Two forks and one adjustable tray are provided to facilitate lifting both 3- and 4-wheel vehicles. Ideal for use at golf courses and in other turf equipment operations. Use engine hoist bracket on crossbar to lift engines from vehicles, lift gang mowers, or stabilize other equipment. 6000 lb. capacity is for lifting turf equipment; 9000 lb. capacity is for lifting cars and light trucks. 16-point Safety Lock with single point lock release. Optional accessories include the EELR304A Front Wheel Tray and EELR316A Gang Mower Adaptor.

EELR343A Wheel Free Twin Post Lift. The Harrier HD Lift — An 11,000 capacity twin-post lift with automatic hydraulic equalization eliminates chains, pulleys and cables. Symmetric design for easy vehicle positioning. Triple safety system includes pilot operated check valve system, velocity fuse parachute safety systems and automatic mechanical safety locks with single point releases. Automatic cassette-style arm restraints for increased safety. Ultra wear Vigor-Glide System provides high wear resistance and smoother lifting/lowering. Pre-load lift arms with full length greaseable arm pin supports reduce arm sag while prolonging service life. Roll formed columns for extra strength. multi-position flip pads. Special plastic coating for maximum corrosion protection. Includes one set of EELR314A Truck Adaptors. Optional EELR326APCAP Polyurethane Coated Pad Adaptors can also be used with this lift. ETL Tested. CE Conformity.

EELR343AEXT Wheel Free Twin Post Lift. Extended height version of EELR343A Harrier HD Lift. Overall height is 14 feet to service bubble tops, cube vans and other tall vehicles.



Specifications	EELR326A	EELR334A	EELR343A	EELR343AEXT
Capacity, lbs. (kgs.)	9000 (4082)	6,000/9,000 (2722/4082)	11,000 (5000)	11,000 (5000)
Overall Height, inches (mm)	144 (3658)	144 (3658)	144 (3658)	168 (4267)
Overall Width, inches (mm)	134 (3404)	144 (3658)	146 (3708)	146 (3708)
Width Between Columns, inches (mm)	107 (2718)	120 (2048)	120 (3048)	120 (3048)
Drive Through Clearance, inches (mm)	86.5 (2197)	109 (2769)	109 (2769)	109 (2769)
Under Bar Clearance, inches (mm)	140 (3556)	140 (3556)	140 (3556)	164 (4166)
Height to Lowered Lift Pad, inches (mm)	4 (102)	5 (127)	5.75 (146)	5.75 (146)
Height to Raised Low Lift Pad, inches (mm)	5.75 (146)	6.75 (172)	7.50 (190)	7.50 (190)
Height to Raised High Lift Pad, inches (mm)	8.75 (222)	9.75 (248)	10.50 (267)	10.50 (267)
Front Arm Retracted, inches (mm)	23.25 (591)	35 (889)	—	—
Front Arm Extended, inches (mm)	36.75 (934)	53.5 (1359)	—	—
Rear Arm Retracted, inches (mm)	35.75 (908)	35 (889)	—	—
Rear Arm Extended, inches (mm)	57.25 (1454)	53.5 (1359)	—	—
Maximum Lifting Height, inches (mm)	77.25 (1962)	74 to 78 (1880 to 1981)	79.25 (2013)	79.25 (2013)
Lift Time, seconds	45	45	45	45
Electrical Requirements	230VAC, 60Hz, single phase	230VAC, 60 Hz, single phase	220VAC, 60 Hz, single phase	220VAC, 60 Hz, single phase
Turf Vehicle Wheelbase (min.), inches (mm)	—	46 (1168) standard	—	—
Turf Vehicle Wheelbase (max.), inches (mm)	—	79 (2007) standard	—	—
Arm Length (Extended), inches (mm)	—	—	53.50 (1359)	53.50 (1359)
Arm Length (Retracted), inches (mm)	—	—	35.25 (895)	35.25 (895)

EELR314A



Twin Post Lift Accessories

EELR314A Hi-Lift Truck Adaptors. (set of two).

EELR316A Gang Mower Adaptor. Use with EELR334A Lift only.

EELR326APCAP Adaptor Pads. Polyurethane coated Pad Adaptors (set of four) for use with EELR326A Wheelfree Twin Post Lift.



WARNING

- Do not exceed load limit of lift.
- Do not raise or lower lift unless area is clear of people.
- Lift must be installed by qualified professional installer.
- Read additional safety precautions on pages M1 to M4.



Above Ground Lifts Moveable Column Lifting Systems

Moveable Column Lifting Systems

FAST, SMOOTH and EASY TO USE

- Quick connect interlinking communication cables and fast lifting speed for optimum productivity.
- Advanced lift carriage design insures a safe distance between vehicle and column.
- Electric/hydraulic single acting cylinder in each column lifts faster than a "screw" system.
- Processor-controlled synchronizing is activated from each cylinder to guarantee level up and down movement while maintaining a constant level with two-tier lifting.
- Practical operator controls with a self-diagnostic function for easy serviceability.

VERSATILE and LOW MAINTENANCE

- Easy to move columns with locking pneumatic wheels provide the freedom to lift almost anywhere.
- Waterproof columns can be used indoors and outdoors.
- Electric/hydraulic single-acting cylinder in each column has no chains, cables or other mechanical parts to maintain or replace.

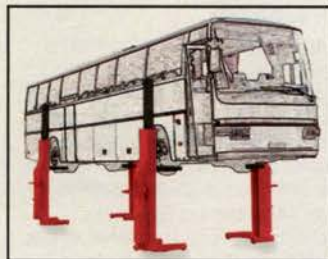
TRI-LEX SAFETY SYSTEM

- Hydraulic flow control in each piston.
- Electro-mechanical safety locks in each column with single point release.
- Load holding solenoid protection in each powerpack.

Lift trucks, buses and many other heavy duty vehicles with simplicity and ease in almost any indoor or outdoor location. 16,500 lbs. (7,484 kg) capacity per column. 66,000 lbs. (29,938 kg) total capacity.

EELR344AHJK High Axle Stand. Optional high jack/axle stand for use with EELR344A and EELR346A Moveable Column Lifting Systems. Variable height settings from 42 3/8" to 74 3/4". Base is 31 1/2" wide.

EELR344ASWA Small Wheel Adaptor. Optional small wheel adaptors for use with EELR344A and EELR346A Moveable Column Lifting Systems. Set up by API.



EELR344A



Specifications

Lifting Capacity per Column, lbs. (kgs.)	16,500 (7484)
Maximum Lifting Height, inches (mm)	71 (1803)
Lift Time, seconds	90
Column Height (Carriage Lowered), inches (mm)	103 (2616)
Column Height (Carriage Raised), inches (mm)	146 (3708)
Height of Lowered Wheel Forks, inches (mm)	5 1/2 (140)
Overall Column Width, inches (mm)	42.6 (1082)
Overall Column Depth, inches (mm)	39.2 (996)
Electrical Requirements	220VAC, 60 Hz, 3-Phase, 20 amp
Shipping Weight, lbs. (kgs) per column	1,069 (485)

Lifting Jacks

API WAREHOUSE INC.
419-472-2128
2045-51 3 1/2 Waver Ave.

YA1642A



YA642A



YA700



YA1703



YA660A



Hydraulic Service Jacks

Stock No.	Capacity, tons	Low Height, inches	Maximum Lift Height, inches	Power Raise, inches	Cap Diameter, inches	Handle Length, inches	Chassis Height, inches	Chassis Length, inches	Weight, lbs.
YA1642A	2	5	20	—	—	—	—	—	—
YA642A	2	3 3/4	20	16 1/4	5 3/4	50	6 3/4	26 3/4	—
YA700	2 1/2	4 1/2	22 1/2	—	—	—	—	—	—
YA1703	3	4	23	—	5 1/2	49 7/8	7 3/8	31 7/8	141
YA657A	4	5 1/4	26	20 3/4	7 1/2	48	7 1/2	48 1/4	—
YA660A	10	5 7/8	26	19 1/8	7 1/2	50	9 3/4	53 3/8	—

YA731A



Air-Operated Hydraulic Service Jacks

Stock No.	Capacity, tons	Low Height, inches	Maximum Lift Height, inches	Power Raise, inches	Screw Extension, inches	Handle Length, inches	Base Size, inches	Minimum PSI (for rated load)
YA1731A	22	9 1/2	19 1/2	—	4 1/2	—	—	—
YA731A	20	8	17 1/2	5 1/2	2 1/2	50	8 x 5 1/2	140

YA662A



Air / Manual Service Jacks

Stock No.	Capacity, tons	Low Height, inches	Maximum Lift Height, inches	Power Raise, inches	Cap Diameter, inches	Handle Length, inches	Chassis Height, inches	Chassis Length, inches	Minimum PSI (for rated load)
YA662A	10	5 7/8	26	20 1/8	7 1/2	50	9 3/4	53 3/8	140



Air-Operated End Lift Jacks

Stock No.	Capacity, tons	Low Height, inches	Maximum Lift Height, inches	Power Raise, inches	Saddle Spread, inches	Minimum PSI (For Rated Load)	Clearance (Lifting Column to Saddle Front), inches
YA696A	2 1/2	10	40	30	19 1/2 to 66	150	16
YA692A	7	13 1/2	58 1/2	32 1/2	29 to 41	200	13

GJ5000



Self-Loading Automotive Jacks

Two jacks allow pivoting any car on either axle; four jacks provide full dolly-style maneuverability. Twin rollers slide around the tire.

U.S. Patents 4,854,803 and 4,690,605.

GJ5000 Jack. 1250 lb. Capacity each jack. (Need 4 jacks for 5000 lb. capacity).

GJ6000 Jack. 1500 lb. Capacity each jack. (Need 4 jacks for 6000 lb. capacity).

GJ452 Storage Rack. Stores up to four GJ Series Jacks. Roller-mounted.

Pneumatic

Standard Features:

- Jack Pad - top swivels 360° for easy grab of vehicle pinch weld.
- Air Spring - convoluted air springs to carry tremendous loads with proven reliability.
- Internal Stabilizer - machined telescoping steel members provide vertical and lateral stability yet allow flexibility during the lifting arc.
- Balanced Handles - for fast, easy transport.
- Pressure Relief Valve - is factory set at inflation limit of jack to prevent accidental over-inflating.
- Air Valve - precision machining coupled with teflon seals and positive air lock design provide maximum feather control and long life.



Fast, portable, easy-to-use pneumatic jacks that are ideal for tire, wheel and suspension work. These jacks provide the fastest way to install pinch weld clamps on the frame rack. Easily portable. Require 105 PSI air supply for maximum efficiency.

Stock No.	Capacity, tons	Low Height, inches	Maximum Lift Height, inches	Weight, lbs.
GJACK2	2	5 3/4	13 3/4	25
GJACK3	2	6 13/16	18	41



YA239A



YA225A



YA1229A



YA1233A



YA1225A

Hydraulic Bottle Jacks

Stock No.	Capacity, tons	Low Height, inches	Max. Height, inches	Screw Extension, inches	Base Size, inches	Handle Length, inches	Cap Diameter, inches	Operating Force, lbs.
YA239A*	1 1/2	21 1/2 (closed)	38 3/4	—	3 x 5 3/4	—	—	—
YA225A	2	7 1/4	14 1/2	—	—	—	—	—
YA1225A	2	7 1/8	13 3/8	—	—	—	—	—
YA1229A	12	9 1/2	18 1/2	3 1/8	5 1/4 x 5 1/8	18 1/8 (assembled)	1 3/4	102
YA1229A**	12	6	10 5/8	1 3/8	5 1/4 x 5 1/8	18 1/8 (assembled)	1 3/4	89
YA1233A	20	9 1/2	18 1/2	3 1/8	6 1/4 x 5 7/8	18 1/8 (assembled)	2	109
YA1233A	20	6 1/2	11 1/4	1 5/8	6 1/4 x 5 7/8	18 1/8 (assembled)	2	101

*High lift model.

**Low profile model

Stands



YA875A



YA522A



YA1873A

Jack Stands (in pairs)

Stock No.	Capacity, tons	Low Height, inches	Max. Height, inches
YA874A	3 each	11	17 3/4
YA875A	6 each	14 5/8	24 7/8
YA522A	10 each	18 5/8	30 1/2
YA1873A	3 each	11	17 3/4
YA1876A	6 each	15 7/8	24 1/2



YA874A



WARNING

- Do not work on vehicles supported by jack; use jack stands.
- Do not lift vehicles heavier than rated capacity of jack.
- Use jacks only on hard, strong, and level surfaces.
- Use jack stands in pairs.
- Chock wheels to prevent vehicle from rolling.
- Do not exceed rated capacity of jack stand.
- Read additional safety precautions on pages M1 to M4.



Lifting

Stands

Utility Stand

Stock No.	Capacity, tons	Low Height, inches	Max. Height, inches	Base Size, inches	Cap Size, inches
YA779A	3/4	54 1/4	80 1/2	12 (dia.)	4 1/2 x 1 1/4



Auxiliary Under-Hoist Stand

Stock No.	Capacity, tons	Low Height, inches	Base Size, inches	Cap Size, inches	Max. Height, inches
YA783A	1 1/2	59 1/2	24 (tripod)	4 1/2 x 1 1/4	82

Hydraulic Wheel Dolly

Stock No.	Capacity, tons	Lift Range, inches	Lifting Arm (Length), inches	Lifting Arm (Spread), inches	Length, inches	Width, inches	Height, inches
YA765A	3/4	2 3/4 to 7 1/8	23	24	37 1/2	36 1/2	31



Transmission Jacks / Mounts / Holders

Hydraulic Transmission Jacks

YA714A 1/2-ton High-Lift Transmission Jack.

Two-stage hydraulic ram for use under hoists. Handles automatic transmission vehicles and front wheel drive trans-axes. Four adjustable load support arms, foot-operated pump and release, and casters for mobility.

YA876A Transmission Jack. For use on automotive and light truck transmissions. Fits front wheel drive trans-axes and air-cooled VW engines. Smooth hydraulic action for precise, controlled lowering and lifting. Four (4) adjustable load support arms swivel to fit around transmission pan flanges. Aligns splines and bolt holes, adjusts to 0.030" (0.762mm) or less. Double pump handle permits operation from either side. Ball bearing swivel casters. Adjustable length chain and hook assembly.

YA727A Transmission Jack. Use on bus, truck, farm, automotive and construction vehicles. Built-in relief valves prevent overloading. Load restraint chain included. Two (2) heavy cast adjustable mounting plates. Four (4) wedges to support load. Generous 44" lift height.

YA712 Fuel Tank Stand. Allows you to easily service fuel tank, fuel pumps and other components. Handles fuel tanks up to forty gallons (empty). Includes anchoring straps and grounding wire. Use with YA714A Transmission Jack.

YA1719B Transmission Jack. Dependable lift provided by single-stage hydraulic ram. Wide, four-leg base for stability; casters for smooth mobility. Alignment is simplified with convenient head adjustment. 1/2-ton capacity.

Hydraulic Transmission Jack Specifications

Stock No.	Capacity, lbs.	Capacity, tons	Low Height, inches	High Lift Point, inches	Lifting Head Size, inches	Chassis Length, inches	Chassis Width, inches	Tilt*
YA714A	1000	1/2	38	76 1/2	15 1/2 x 15 1/2	38	38	80° F, 18° B, 10° L&R
YA876A	1000	1/2	3 1/4	26 1/4	9 x 9	33	20	60° F, 18° B, 12° R&L
YA727A	2000	1	10	44	15 1/2 x 15 1/2	48	29 7/8	40° F, 15° B, 10° L&R
YA1719B	1000	1/2	51 1/2	71 1/4	10 1/2 x 10	54 1/2	54 1/2	23° F, 20° B, 18° L&R

* F = front, B = back, R = right, L = left.



Transmission Mounts

CES2B Bench Mount and Transmission Adaptor. Base mounts to most anchored and strong benches for easy work on transmissions. Multipurpose adaptor bolts to all transmissions.

CES2B2 Bench Mount.

CES2B1 Transmission Adaptor.

CES1BFORD1 Transmission Adaptor. Transmission stand adaptor for Ford Aerostar vans and Ranger pick-up trucks. Use with CES1B Engine Stand or CES2B Bench Mount Transmission Mount. Includes the necessary fractional and metric fasteners for attaching transmission.



Transmission Holders

CES3D Holder. Includes C-clamp, bench mount and five adaptors for most automatic transmissions, such as Chrysler, GM, Borg-Warner, and Ford. Does not include adaptor for Ford C-6. Mounts easily to CES2B2 Bench Mount or optional CES1B Engine Stand.

CES5 Holder. Designed for all domestic front wheel drive automatic transmissions. Includes CES2B1 Bench Mount.

Engine Stands / Hoists / Slings



CES1B



CES4



CG50

Engine Stands

CES1B Heavy-Duty Stand. Mount most domestic and import auto and small truck engines. Welded and bolted construction plus extra wide back provide stability. Swivel mounting plate rotates 360° and locks into position. Includes four 3 1/2" diameter heavy-duty casters: two swivel, two rigid. (750 lb. capacity).

CES1B7A Optional Adaptor Kit. Includes necessary hardware to adapt CES1B for mounting VW, plus many GM and other engines.

CES4 Optional Drip Pan. Fits over the base of the CES1B to collect oil drippings. 12 qt. capacity.

CG50 Stand. Worm gear cranking mechanism (50:1 gear ratio) allows locking engine in many positions. Collapsible mast for compact storage. Adjustable slide mounts accept most domestic and import auto and light truck engines. Includes easily accessible grease fitting. (1/2 ton capacity).

CG50MB Metric Bolt Set. Optional metric bolt set for the CG50 Engine Stand. Allows stand to fit a wider variety of engines. Bolts insert in adjustable slide mounts that accept most domestic and import auto and light truck engines. Includes (4) M10-1.5 x 130mm bolts, (4) M12-1.75 x 130mm bolts, (2) 3/8"-16 x 6" bolts, (2) 3/8"-16 nuts and (2) 3/8" washers.



YA2670



A238

GA197A



YA554



YA720

Engine Hoist and Slings

YA2670 Engine Hoist. Lightweight, portable unit features adjustable bar that fits between fenders from 46" to 61 1/2". Suitable for all 4-cylinder 4WD transmission removals, changing timing belts, water pumps and oil filters. Head adjusts 15° in either direction. For both front wheel or rear wheel drive vehicles. (500 lb. capacity). Includes:

YA2671 Lifting Assembly.

YA2674 Offset Bar. Use on GM "W" chassis vehicles. A special device clips and holds the bottom of the offset bar behind the cross member in front of the radiator. Accessory for YA2670 Engine Hoist.

YA2675 Swivel Adaptor Kit. Enables mounting between the main telescoping tube plate and the triangle leg plate. This mounting location allow the leg plates to swivel and align in the drip rails on tapered hood openings found on Monte Carlo, Lumina and Honda Accord. Accessory for YA2670 Engine Hoist.

YA2676 Leg Plates. Enables use with 1998 and later Honda Accord / Odyssey. Works best when used with YA2675 Swivel Adaptor Kit. Accessory for YA2670 Engine Hoist.

A238 Engine Sling. Has a 40" flexible cable—each end with a fitting drilled for 1/2" diameter bolts. Do not crimp cable around sharp edge or it can snap off. (1/2 ton capacity).

GA197A Lifting-Pulling Tool. Excellent for removing engines from autos and trucks. Maximum lift of 6'. Minimum distance between hooks is 2'. Anchored hook swivels a full 360°. Automatic let-down provides easy release-one notch at a time. 1 ton capacity.

YA554 Engine Lift Plate. Bolts to intake manifolds on domestic 2 or 4-barrel carbureted V6/V8 engines and GM throttle body V6/V8 engines. 1 1/2 ton.

YA720 Engine Load Leveler. Enables one person engine installation or removal. Easily guide engine in/out of engine compartment, simplifying alignment and reducing risk of damage. Crank simplifies forward/back adjustment. Includes two 20" chains. Includes (4) 3" I-bolts and (4) 10" chains. Maximum lift capacity is 1,250 lbs. Use with YA704A or YA705A, hydraulic cranes.

Hydraulic Cranes

YA704A 1-ton Folding Hydraulic Crane. For transporting automotive and truck engines and transmissions. Release valve provides precise, controlled lowering of the load. Conveniently folds up for compact storage. Features include telescoping boom for greater versatility, ball-bearing swivel casters plus an adjustable length chain and hook assembly. Heavy duty steel tube construction for increased strength and durability. Stores in 2-foot x 3-foot area.

YA705A 2-ton Hydraulic Crane. For transporting automotive and truck engines and transmissions. Release valve provides precise, controlled lowering of the load. Legs extend to 39" for increased stability. Features include telescoping boom for greater versatility, ball-bearing swivel casters plus an adjustable length chain and hook assembly. Heavy duty steel tube construction for increased strength and durability.



YA704A



YA705A

YA704A Specifications

Boom Position	Capacity lbs.	Hook Height Minimum	Maximum Reach	Front Leg Length	No. of Casters
1	2,000	82"	32"	35"	6 total
2	1,500	85"	38"	—	
3	1,000	88"	—	—	

YA705A Specifications

1	4,000	77"	32"	33" (retracted), 4 39" (extended)
2	3,000	84"	41"	
3	2,000	90"	50"	
4	1,000	97"	59"	

See Warranty Information on inside front cover.

Cranes



WARNING

- Do not work on vehicles supported by jack; use jack stands.
- Do not lift vehicles heavier than rated capacity of jack.
- Use jacks only on hard, strong, and level surfaces.
- Use jack stands in pairs.
- Chock wheels to prevent vehicle from rolling.
- Do not exceed rated capacity of jack stand.
- Read additional safety precautions on pages M1 to M4.



Welding Snap-on® Muscle MIG / MIG Wire Feed Welders

Snap-on® Muscle MIG Welders

Use our "Muscle MIG" welders for continuous, spot, or stitch welding. There are several models to choose from in 115V and 230V capacities. All models are spool gun ready for a quick change to MIG aluminum welding. All models

feature DC TIG welding capabilities of thin- to heavy-gauge ferrous metals with addition of FLEXTIG12 or FLEXTIG25 Kits. Each welder includes professional flow meter regulator and parts kit. Also see brochure SV287.



MM140SL



MM250SL



MM350XL

MM140SL Wire Feed Welder. 140 amp output @ 100% duty cycle, 120VAC, 50 Hz/60 Hz. Use for continuous, spot, or stitch welding using .023" through .035" wire. Welds up to 5/16" in a single pass. Includes voltmeter, gas purge, wheel kit, cylinder rack, flowmeter-regulator, 10' torch, 20' power input cable with 120VAC plug, 15' cables between power source and detachable feeder and parts kit. Two year warranty.

MM250SL Wire Feed Welder. 185 amp output @ 100% duty cycle, 230 amp output @ 60% duty cycle, 208/240VAC, 50 Hz/60 Hz. Welding capacity of 30 to 270 amp using .023" through 3/64" wire. Welds up to 3/8" in a single pass. Includes voltmeter, gas purge, wheel kit, cylinder rack, flowmeter-regulator, 10' torch, 20' power input cable with 120VAC plug, 15' cables between power source, and detachable feeder and parts kit. Two year warranty.

MM350XL Wire Feed Welder. 300 amp output @ 100% duty cycle, 350 amp output @ 60% duty cycle, 208/230VAC, single phase 50 Hz/60 Hz., 46/42 amps. Heavy duty welder for use in frame shops plus maintenance and manufacturing applications. Welding capacity of 30 to 350 amp using .023" through 1/16" wire. TIG welds 18-gauge through 1/4" steels (no aluminum). Features heavy duty remote feed unit and short arc, globular, spray transfer. Spool gun ready. Includes combination power source/remote feed unit, industrial wheel kit and dual cylinder rack, 15-foot feeder control cable assembly, shielding gas regulator/flowmeter, 20-foot power input cable, parts kit and MIG Torch with 12-foot cable (0.035" wire). Weight is 275 lbs. (124.7 kg). Two year warranty (except MIG torch).

Snap-on® MIG Welders

FM140A Wire Feed Welder. 140 amp output @ 100% duty cycle, 120VAC, 50 Hz/60 Hz. Welds up to 5/16" in a single pass. Similar to MM140SL but does not include voltmeter, gas purge, and thin-gauge DC TIG capability. Spool gun ready. Wire feeder built in and is not detachable. Ask your Snap-on® representative for information on conversion kits to allow FM140A to perform heavy gauge D.C. TIG welding of ferrous metals. Also see brochure SV287.

YA212AIND Wire Feed Welder. 185 amp output @ 100% duty cycle, 230 amp output @ 60% duty cycle, 208/240VAC, 50/60 Hz. Welds up to 5/16" in a single pass. Features built-in wire feeder, voltmeter, 10' torch cable, and 15' ground cable. Wheel kit and cylinder rack are pre-installed. Includes flowmeter-regulator and parts kit. Spool gun ready. Ask your Snap-on® representative for information on conversion kits to allow YA212AIND to perform heavy-gauge DC TIG welding of ferrous metals. Also see brochure SV287.

YA212AIND



FM140A



MHG5A



FLEXTIG25



MHG5B



CKS35XL1245



Snap-on® Muscle MIG / MIG Welder Accessories

MHG5A Spool Gun. 1 lb. spool gun for MIG welding aluminum. Use with FM140A and YA212AIND.

MHG5B Spool Gun. 1 lb. spool gun for MIG welding aluminum. Use with MM140SL, MM250SL and MM350XL.

FLEXTIG12 Conversion Kit. Includes 12' cable to allow MM140SL, MM250SL and MM350XL to perform DC TIG welding.

FLEXTIG25 Conversion Kit. Includes 25' cable to allow MM140SL, MM250SL and MM350XL to perform DC TIG welding.

CKS35XL1245 Optional Torch. Optional MIG torch with 12-foot cable for MM350XL MIG Welder. Uses 0.045" wire.

CKS35XL1535 Optional Torch. Optional MIG torch with 15-foot cable for MM350XL MIG Welder. Uses 0.035" wire.

CKS35XL1545 Optional Torch. Optional MIG torch with 15-foot cable for MM350XL MIG Welder. Uses 0.045" wire.

Snap-on® Muscle MIG / MIG Wire Feed Welders

Snap-on® Muscle MIG / MIG Welder Consumables

CKSMPK1 MIG Welder Master Parts Kit. Contains selection of contact tips, gas diffuser, insulator, insulator "O" rings, nozzle assembly, connector plug "O" rings and spot nozzle for Snap-on® Muscle MIG and MIG welders. Use on MM140SL, MM250SL, MM300L, FM140A, YA212AIND.

CKSMPK10 MIG Welder Master Parts Kit. Contains selection of contact tips, gas diffusers, cups, insulators, insulator "O" rings, nozzle assembly, nozzle body, spool gun barrel liners, connector plug "O" rings and spot nozzle for Snap-on® Muscle MIG and MIG Welders and Spool Guns. Use on MM140SL, MM250SL, MM350XL, FM140A, YA212AIND, MHG5A, MHG5B.

For MHG5A and MHG5B Spool Guns:

CKSM5C62 5/8" Nozzle Cup.

CKSM5NB Nozzle Body.

CKSM5B Insulated Nozzle Bushing.

CKSM35NA62 Nozzle Assembly.

CKSM35D Gas Diffuser.

CKSMGT25 Contact Tip. .023"-.025" wire size, 1 7/16" long.

CKSMGT30 Contact Tip. .030" wire size, 1 7/16" long.

CKSMGT35 Contact Tip. .035" wire size, 1 7/16" long.

CKSMGT364 Contact Tip. 3/64" wire size, 1 7/16" long.

For MM140SL, MM250SL, FM140A, and YA212AIND MIG Welders:

CKSM3TN50 1/2" Adjustable Nozzle.

CKSM3TB Insulator (includes "O"-rings).

CKSM3TBR Insulator (3 "O"-rings req. before use).

CKSM3TD Gas Diffuser.

CKSM3T25 Contact Tip. .025" wire size, 1 7/16" long.

CKSM3T30 Contact Tip. .030" wire size, 1 7/16" long.

CKSM3T35 Contact Tip. .035" wire size, 1 7/16" long.

CKSM3T45 Contact Tip. .045" wire size, 1 7/16" long.

For MM350XL MIG Welder:

CKSM3D Gas Diffuser.

CKSM3NA50 Nozzle Assembly.

CKSM3C50 Nozzle Cup with 1/2" inside diameter.

CKSM3NB Nozzle Body.

CKSM3B Insulated Nozzle Bushing.

CKSM3T25 Contact Tip. .025" wire size, 1 7/16" long.

CKSM3T30 Contact Tip. .030" wire size, 1 7/16" long.

CKSM3T35 Contact Tip. .035" wire size, 1 7/16" long.

CKSM3T45 Contact Tip. .045" wire size, 1 7/16" long.



CKSMPK1



CKSMPK10

Blue-Point® MIG Wire Feed Welders

MIG115
Shown with
optional cart.

MIG030

MIG1152

MIG1153

MIG110

MIG1101

MIG1102

MIG1151

MIGPLAKR

Blue-Point® MIG Welders

MIG110 Wire Feed Welder. Welds 24 gauge up to 3/16" in a single pass. Features contactor circuitry; the wire is live only when trigger is engaged. Variable wire control allows adjustment for precise wire speed. Four heat settings for proper output. Use for manual spot weld and continuous bead weld with .023" steel, stainless steel, or aluminum solid wire. Transformer delivers low heat output needed to weld ULSAB steels. New choke design filters the DC welding voltage/ampereage to provide soft welding arc needed for ULSAB steels. Venting fan at rear of cabinet keeps unit cool. Does not include MIGPLAKR Cart.

MIG115 Wire Feed Welder. Designed to weld 24-gauge to 1/4" steel. Use with .023" to .035" solid steel wire and gas (GMAW) or as a gasless wire feed welder (FCAW) when used with flux-cored tubular welding wire.

Includes welding nozzle and spool of wire, 4 contact tips (.6 mm), heavy duty wire feed gun with 5 1/2 foot cable, 6 1/2 foot ground cable, clamp, gas regulator and hose.

Blue-Point® MIG Welder Accessories and Consumables

For MIG110/MIG115 MIG Welders:

MIG023 Contact Tip. 0.023" wire size. Ten per pack.

MIG030 Contact Tip. 0.030" wire size. Ten per pack.

MIG035 Contact Tip. 0.035" wire size. Ten per pack.

For MIG115 MIG Welder:

MIG1151 Tapered Nozzle.

MIG1153 Steel Liner.

MIG1155 Complete Torch.

9-foot Torch Assembly.

MIG1157 TEFLON® Liner.

(for aluminum welding).

For MIG110 MIG Welder:

MIG1101 Tapered Nozzle.

MIG1102 Spot Weld Nozzle.

MIGPLAKR Welder Cart. Optional cart for MIG110 / MIG115 MIG Welders plus PLASMA115 Plasma Cutter.

Specifications	MIG110	MIG115
Input Voltage	120VAC, Single Phase, 60 Hz	120VAC, Single Phase
Input Current	20 Amps	23 amps
Output Voltage	21 VDC	18VDC
Output Current	110 amps maximum	135 amps maximum
Duty cycle	100%-10%	100% - 15%
Torch Lead Length	6'	9'
Ground Cable Length	8'	12'
Power Cord Length	6'	6'
Dimensions	13.5" H x 12" W x 18" D	18" H x 13" W x 31 1/2" D
Weight	58 lbs.	67 lbs.

See Warranty Information on inside front cover.



WARNING

- Wear welding helmet with appropriate shade lens while using electric welders.
- Wear protective clothing while welding.
- Do not allow bystanders while welding.
- Read additional safety precautions on pages M1 to M4.



Welding

Spot Welders

Spot Welder

YA22300 Spot Welder.

Makes factory quality spot welds right in the shop. Spot weld difficult to reach areas quickly and easily. Produces pinch type welds from both sides for drip rails, door opening, trunk lips, and roof skin. Time of welds is automatically controlled by solid-state electronic circuitry. Features protected control panel, ON/OFF indicating switch, solid state timer and tool storage area. Requires no gas or wire. Includes YA223001, YA223002 and YA223009 Welding Tips.

YA22300



YA22300 Specifications

Dimensions	20 1/2" H x 11" W x 16" L
KVA Rating	4
Line Fuse	50 amp
Maximum Welding Capacity	Two combined pieces of 18-gauge autobody steel
Power Input Cable, ft. (m)	50', #10/3 wire
Primary Voltage	240V Single phase, 50/60 Hz.
Weight	120 lbs.
Welding Cable Length	5'

Heavy Duty Spot Welder

YA22400 Heavy Duty Spot Welder. Makes factory quality spot welds right in the shop. Welds through coated materials. Generates 1100 amps at the tip for OEM style welds. Mobile stand with boom provides mobility and welding at almost any angle. Adjustable overhead beam is easily set for the individual user. 360° rotating head for easy welding positioning. Up to 825 lbs. of tip pressure for tough and complete welds every time. External coolant circulator keeps the welder working even under heavy use. Liquid cooling all the way to the tips enables multiple welds without burnout. Includes welder, mobile stand with boom, tip dressing tool, 4 gal. of coolant and complete set of welding tips.

YA22400 Specifications

Electrical Requirements	220V, 50/60 Hz, single phase, 60 amps
Overall Dimensions	82 1/2" H x 33 1/4" W x 48" D
Plug	NEMA 650-R
Power Cord Length	50 ft.
Weight	650 lbs.

YA22400 Optional Accessories:

YA224001 Tong Arms. Optional tong arms for YA22400 Welder.

YA224002 Straight Welding Tip. 2" straight welding tip for YA22400 Welder.

YA224003 90° Welding Tip. 1" 90° welding tip for YA22400 Welder.

YA224004 Straight Welding Tip. 1.5" straight welding tip for YA22400 Welder.

YA224005 90° Welding Tip. 2" 90° welding tip for YA22400 Welder.

YA224006 90° Offset Welding Tip. 1" 90° offset welding tip for YA22400 Welder.



YA22300 Accessories:

YA223001 Long Spot Welding Tip.

YA223002 Short Spot Welding Tip.

YA223003 Drip Rail Welding Tip. Replacement tip for the YA223004 Welding Cable Assembly.

YA223004 Welding Cable Assembly with Electrode Guns (5').

Accessory welding cable assembly for the YA22300. Allows welding from a single side such as door skins and other applications. Maximum usage is two pieces of 20-gauge autobody steel.

YA223005 Dent Puller Kit. Provides fast, effective means of dent repair without drilling holes or using draw pins.

YA223006 Welding Tip. Replacement welding tip for the YA223004 Welding Cable Assembly.

YA223007 Replacement Switch. Replacement push button switch for the welding gun included with the YA22300 plus the YA223004 Welding Cable Assembly and the YA223005 Dent Puller Kit.

YA223008 Pry Bar.

Use with YA223005 Dent Puller Kit to make leverage-type pull.

YA223009 Drip Rail Spot Welding Tip.

YA2230075 Dent Pulling Attachment. Optional dent pulling attachment for the YA22300.

Gas Welding

Welding Kits

WE350 Heavy Duty. Tough, single-stage regulators feature forged brass bodies and housing caps plus large, 2 1/2" diameter gauges. Brass torch handle and tri-tube cutting attachment. Built-in check valves for added safety. Includes sizes 0, 3, and 5 welding tips; size 8 multi-flame rosebud tip; 25' of 1/4" hose; flip-up goggles; and sparklighter.

WE200 Single Stage. Includes single-stage oxygen and fuel pressure regulators for smooth consistent gas control; durable brass torch handle with built-in gas check valves for added operator safety; cutting attachment with stainless steel gas tubes; size 0 cutting tip; size 8 rosebud tip; 20' of 3/16" dualine hose; flip-up welding goggles and sparklighter.



WE350



WE200

Tip cleaners.
WE250-101

YA1550A Self-Igniting Torch. Features dependable piezo-electric ignitor. Push the trigger, it's on—release, it's off. Uses either propane or MAPP® gas. Lock button for continuous operation.

Optional tips and hose:

YA1550-2 Pencil Flame Tip Kit.

YA1550-5 Hose. 12' hose.



YA1550

Welding Torch

Dent Puller Systems Welding



YA22350B



YA22375

Portable Dent Pulling System

YA22350B. Easily pulls dents on vehicle roofs, hoods, and side panels. System features star tip design for welding directly to cleaned work piece, eliminating the need to drill holes or cut pin heads. Time and current of star tip are controlled by solid state electronic circuitry. Built-in slide hammer speeds dent pulling since there is no need to change tools. Lightweight 7' power cable slide hammer and 7' ground cable assembly make it easy to move unit directly to work site. Includes 25' power input cable, YA2353 Heat Shrink Weld Tip, 5/16" hex key, and extra star tips (pack of 10).

YAH22350B 220VAC, single-phase, 50/60 Hz version of YA22350B.

YA22375. Same as YA22350B except features t-handle style puller for shorter, more controlled pulls instead of slide hammer style puller.

YAH22375. 240VAC, single-phase, 50/60 Hz version of YA22375.

Accessories for YA22350B / YAH22350B YA22375 / YAH22375:

YA2235CART	Service Cart.
YA2351	Long Stud Weld Tip.
YA2352	Mold Rivet Weld Tip.
YA2353	Heat Shrink Weld Tip (blunt).
YA2354	Slotted Weld Tip.
YA2355	Star Tips (pack of 10).
YA2356	Electrode Head Kit.
YA2357	Slide Switch.
YA2358	Magnetic Base for Grounding Clamp.
YA22351	Claw Pulling Kit.
YA223008	Pry Bar.
YA223007	Push Button Switch

Specifications	YA22350B	YA22375
Electrical Requirements	120 VAC, single phase, 50/60 Hz	120 VAC, single phase, 50/60 Hz
Power Cable (Slide Hammer), ft. (m)	7 (2.1)	—
Ground Cable Length	7 (2.1)	7 (2.1)
Power Input Cable, ft. (m)	25 (7.6)	25 (7.6)



YA22351



YA2235CART

YA22351 Quick Claw Dent Pulling Set. Use to establish multiple pull points. No drilling required. Quicker and easier than stud systems. Wire is reusable. Independent finger action of claw creates even pull at all points. Simply use provided welding tips to weld wire to body panel, attach claw to wire, and then pull by hand, with a slide hammer or chain. Use gentle rocking motion with pliers to remove wire from body panel. Set includes (1) Claw Handle, (2) Welding Tips and (24) Welding Wires.

YA22352 Claw Handle. Four-finger "Claw" pulling handle.

YA22353 Claw Wire Welder Tips. Welding tips for YA22354 Welding Wires.

YA22354 Claw Dent Puller Welding Wires. 1/2 lb welding wires.



YA22345KT

Stud Gun Dent Pullers

YA22345KT Stud Gun Dent Puller Kit. Designed for instant welding of draw pins, molding rivets and shrinking of stressed material. Low heat transformer in welding gun virtually eliminates the common problem of "burn-through". Kit includes stud weld gun, heavy duty slide hammer, light duty T-puller, three electrodes, 2mm draw pins (pack/500), 2.5mm draw pins (pack/500) in plastic case.

YA22345 Stud Welding Gun for YA22345KT. Welds draw pins to surfaces. Low heat tool eliminates "burn-through" during weld process. Power requirements are 120VAC/Single Phase/60 Hz/15 amp.

YA223451 Draw Pins (2mm). Copper-coated steel. Soft for easy flexing and grinding. Delivers 500 lb. pull. 2mm. 500-pack.

YA223452 Draw Pins (2.5mm). Copper-coated steel. Soft for easy flexing and grinding. Delivers 500 lb. pull. 2.5mm. 500-pack.

YA223453 Magna Clamp. Constructed from heat-treated hardened steel, this tool features wing nut self-tightening, making the job fast and easy. Locks onto draw pins for pulling dents.

YA223454 T-Puller. Compact tool for small damage repair on lightweight metal. Helps reduce overpull.

YA223455 Slide Hammer. Polished steel bar with rubber handle insures positive pulling action. Slide made of cast iron. Collet is heat treated tool steel for maximum grip and long life. Nose collet locks onto draw pin for pulling dents.

YA223456 Shrinking Electrode. Shrinking electrode for providing fast heat. Tough copper with highest electrical conductivity.

YA223457 Pin Electrode. Pin electrode holds all standard size pins. Tough copper with highest electrical conductivity.

YA223458 Trim Rivets. Used to repair metal trim strips. Trim rivets weld on to panel and provide permanent retention to trim strip. 500 per pack.

YA223459 Rivet Electrode. Rivet electrode for YA223458 Trim Rivets. Retains the trim rivet for welding. Tough copper with highest electrical conductivity.

YA2234510 Plastic Case. Storage case for YA22345KT.



WARNING

- Do not use YA1550A Torch with acetylene gas.
- Wear protective clothing while welding and cutting.
- Do not allow bystanders while welding and cutting.
- Read additional safety precautions on pages M1 to M4.



Welding Plasma Cutters

Our plasma cutters will cut virtually any electrically conductive material fast and easy, using electrical power and compressed air. It's the quickest method for cutting new high strength steel. Because Snap-on® plasma cutters use clean, dry compressed air

for both cutting and cooling, you never need to worry about refilling compressed gas cylinders or running out of gas in the middle of the job.

Medium Duty Plasma Cutter

YA2814. Applications include auto body, maintenance, fabrication, light construction and HVAC ductwork. Dual input voltage located in back of the unit allows either 120 or 220 VAC input power and provides patented protection in case of incorrect switch position. Blow Back Torch Design – The plasma arc is created by pulling an electrical arc between an electrode & tip. This process eliminates high frequency arc starts. Postflow cooling circuit extends the life of consumables and torch by cooling them with postflow air after the trigger is released. Pilot Arc Control increases cutting capabilities, cutting speed and improves tip life. LED indicators for pressure, power, cup and temperature allow faster troubleshooting, eliminating unnecessary downtime. Welder includes ICE-27C hand-held torch with 20' (6m) cable, 15' (4.6m) heavy duty work cable with clamp, extra consumables (10 electrodes, 10 tips, 1 retaining cup, 1 swirl ring, 5 O-rings, and 1/4 oz tube of grease), 10' (3m) power cord with 120 VAC, 20 amp plug, and easy-to-connect, built-in gas/air filter and regulator with extra protection.

YA2814 Specifications

Primary Input, V	120/220 VAC, 60 Hz
Rated Output	27 amps at 90 VDC, 35% duty cycle
Stand-Off Cutting Capacity (1/16")	Rated: 3/8" (10mm), Quality: 1/2" (13mm), Sever: 5/8" (16mm)
Drag Cutting Capacity	Rated: 5/16" (8mm), Quality: 3/8" (10mm), Sever: 1/2" (13mm)
Plasma Gas Flow/Pressure	4.5 CFM (129 l/min.) @ 60 PSI (141 kPa)
Overall Dimensions	13 1/2" H x 8 1/2" W x 16" D (516.2 x 21.6 x 40.6 cm)
Weight, lbs. (kg)	49 (22)

Plasma Cutter Consumables

For PLASMA230:

PLASMA2305 PLASMA2307

PLASMA2301

PLASMA2302



PLASMA2305 Short Electrodes. 5-pack.

PLASMA2307 Long Electrodes. 5-pack.

PLASMA2309 Spacer Springs. 5-pack.

PLASMA2301 Short Nozzles. 1mm. 5-pack.

PLASMA2302 Long Nozzles (1mm).

Use between 35 and 50 amps. 3-pack.

For PLASMA115:

PLASMA1151 PLASMA1152

PLASMA2304



PLASMA1151 Short Electrodes. 5-pack.

PLASMA1152 Long Electrodes. 2-pack.

PLASMA2304 Nozzle Holder.

For PLASMA230/PLASMA115:

PLASMA2306

PLASMA2308

PLASMA2303



PLASMA2306 Short Nozzles (.9mm). Use between 0 and 35 amps. 5-pack.

PLASMA2308 Long Nozzles (.9mm). Use between 0 and 35 amps. 5-pack.

PLASMA2303 Diffusers. 2-pack.

MIGPLAKRA Welding Cart. Optional cart for MIG110 / MIG115 MIG Welders plus PLASMA115 Plasma Cutter.

PLASMA230

Heavy Duty Plasma Cutter

PLASMA230. Ideal for heavy gauge cutting of ferrous and non-ferrous metals like aluminum, stainless and carbon steels. Severs up to 3/4" material thickness. Uses high frequency ARC starting to make jobs easier. Features dual power output—50 amp for cutting thicker metals and 30 amp for cutting thinner sheet metal. Uses clean, dry compressed air for both cutting and cooling. No need for refilling compressed gas cylinders during the job. Air pressure regulator provides an accurate adjustment of working air pressure for the best cut. Fan cooled. Includes complete 18 ft. torch assembly, ground cable and clamp, extra nozzle, electrode wrench, silicon spray for nozzles, consumables case, goggles and wheel kit.

PLASMA230 Specifications

Primary Input	220V, Single Phase
Primary Amps	46
Output Amps	30 and 50
Duty Cycle	100% - 40%
Gas Supply	Compressed Air - 70 PSI (6 CFM)
Torch Lead Length	18'
Ground Cable Length	18'
Power Cord Length	6'
Dimensions	32" H x 20" W x 24" D
Weight	137 lbs.



Standard Duty Plasma Cutter

PLASMA115

PLASMA115. Swiftly cuts ferrous and non-ferrous metals like aluminum, stainless and carbon steel. Ideal for automotive repair, HVAC work, stainless steel work in food processing and hospitals, trailer repair and other fabrication jobs. Cuts sheet metal at approximately 100" per minute. Can handle up to 3/16" material thickness. Removes spot welds in seconds. Compact torch handle easily reaches tight access positions. Features ARC starting and thermal overload protection. Built-in pressure regulator with air reducer. Fan cooled for longer life. Includes 12' torch assembly, (1) short nozzle, (1) long nozzle, (1) long electrode, (1) short electrode and goggles.

PLASMA115 Specifications

Primary Input	120 Volt AC
Primary Amps	24
Output Amps	25
Duty Cycle	100% - 20%
Gas Supply	Compressed Air - 70 PSI (4-6 CFM)
Torch Lead Length	12'
Ground Cable Length	12'
Power Cord Length	6'
Dimensions	12" H x 10" W x 18" D
Weight	55 lbs.



YA612A



YA595



YA590



YA551B



YA555A



Welding Helmets

YA612A Variable Shade Electronic Welding Helmet. Features Electronic IRUV Variable Shade Auto-Darkening Filter with viewing area of 9 square inches. Adjusts from IRUV filter shade #8.5 through shade #12.5. Adjustable for ambient light sensitivity--for varying light conditions--and dark-to-clear time delay for tack welding, pulse welding and viewing a bright residual weld pool. CLEAR VUE™ (shade #2.75) feature for optimum hood-down viewing in clear state. ON and OFF switches with auto-OFF feature. Red LED Low Battery Indicator. Tough thermoplastic resin material withstands up to 350° F ambient temperature. Simply turn headband adjustment knob to adjust to virtually any head size. Meets or exceeds ANSI, CSA, DIN and CE standards. Includes factory installed ADF Variable Shade cartridge, two AAA batteries, cover lens and safety lens. Requires MAG612MAGADP Lens Adaptor to use YA555MAG1.5 and YA555MAG2.0 Magnifying Lens.

YA595 Electronic Variable Shade Welding Helmet. Features auto-darkening, adjustable shading from 8.5 to 12.5 shade factor. Provides 2.75 shade when at rest. 6 square inch viewing area in 4 1/2" x 5 1/4" helmet window. On switch with auto-off feature. Adjustable dark to clear relay is ideal for pulse TIG welding. Independent, redundant sensors provide maximum reliability. Adjustable head band. Uses two "AAA" batteries. Low battery indicator.

YA590 Auto-Darkening Electronic Welding Helmet. Features Electronic IRUV Fixed Shade #10-L with Auto-Darkening Filter with viewing area of 4 square inches. CLEAR VUE™ (shade #2.75) feature for optimum hood-down viewing in clear state. Auto-Off Feature turns ADF unit off after 15-20 minutes of welding inactivity. Tough thermoplastic resin material withstands up to 350° F ambient temperature. Simply turn headband adjustment knob to adjust to virtually any head size. Meets or exceeds ANSI, CSA, DIN and CE standards. Includes factory installed ADF Fixed Shade #10-L cartridge, two AAA batteries, cover lens and safety lens. Internal safety lens must be removed to use YA555MAG1.5 and YA555MAG2.0 Magnifying Lens.

YA551B Welding Helmet. Large window "Fixed Front" design features an extended throat for protection from sparks, slag and fumes. Tough thermoplastic resin material withstands up to 350° F ambient temperature. Meets or exceeds ANSI, CSA, DIN and CE standards. Simply turn headband adjustment knob to adjust to virtually any head size. Positive detent system holds helmet in "up" position until ready for use. Factory installed 4 1/2" x 5 1/4" IRUV shade #10 filter plate and clear cover lens. Requires YA551MAGADP Lens Adaptor to use YA555MAG1.5 or YA555MAG2.0 Magnifying Lens.

YA555A Welding Helmet. Features large window "Lift Front" design. Simply lift the front for grinding, chipping or inspection through ANSI safety lens. Tough thermoplastic resin material withstands up to 350° F ambient temperature. Simply turn headband adjustment knob to adjust to virtually any head size. Meets or exceeds ANSI, CSA, DIN and CE standards. Factory installed 4 1/2" x 5 1/4" IRUV shade #10 filter plate, clear front cover lens and clear safety lens (to protect eyes with Lift Front in the "up" position). Does not require adaptor to use YA555MAG1.5 or YA555MAG2.0 Magnifying Lens.

YA555-10 Gold-Coated Replacement Face Plate. Gold-coated replacement face plate for YA555A. Offers improved vision, heat reduction, and excellent durability.

YA555MAG1.5 Magnifying Lens. 1.5X magnifying lens for YA551B, YA555A, YA590 and YA612 Welding Helmets.

YA555MAG2.0 Magnifying Lens. 2X magnifying lens for YA551B, YA555A, YA590 and YA612 Welding Helmets.

Solar Retrofit Cartridges

Turns passive welding helmets into solar-powered auto-darkening helmet. Cartridges are lighter and thinner than battery-powered lenses. All solar-powered retrofit cartridges (except YASOLAR4H) feature high and low light sensitivity adjustment.

YASOLAR4H



Stock No.	Thickness	Fixed Shade	Clear State	Viewing Area	Application
YASOLAR4H	0.20"	10/11	2.75	4 sq. in.	2" x 4 1/4" horizontal lens holders
YASOLAR6H*	0.20"	10.5	3.0	6 sq. in.	4 1/2" x 5 1/4" horizontal lens holders
YASOLAR6V*	0.20"	10.5	3.0	6 sq. in.	5 1/4" x 4 1/2" vertical lens holders
YASOLAR9H	0.20"	10.5	3.0	9 sq. in.	4 1/2" x 5 1/4" horizontal lens holders
YASOLAR9V	0.20"	10.5	3.0	9 sq. in.	5 1/4" x 4 1/2" vertical lens holders

*Can be used on YA555A Welding Helmet.

Welding Gloves

YA427A Welding Gloves.

Tough, brushed-grain pigskin gloves provide added protection from hot welding sparks and spatter. Long flame-retardant cuffs help protect forearms. Flame-resistant cotton core thread and welled finger and thumb reinforcements provide seam strength and durability. Heat insulation lining ensures greater user comfort and protection. Available in men's size large only.

YA427A



Welding Hammer

WCH3 Welder's Chipping Hammer.

Features pick end and 3/4" chisel head end. Heat treated high alloy steel for long life. Head length is 7-1/2". Overall length is 11".

WCH3



Welder's Marking Set

YA247 Welder's Marking Set. Includes YA247-2 Soapstone Marker for making temporary markings and a YA247-1 Scribe with a sharp, tough carbide tip for making permanent markings. Also includes replacement soapstone. Each tool has a tough aluminum barrel; the soapstone marker includes a built-in sharpener. Packaged in a plastic pouch.

YA247



WARNING

- Wear welding helmet with appropriate shade lens while using plasma cutters.
- Wear protective clothing while welding and cutting.
- Do not allow bystanders while welding and cutting.
- Read additional safety precautions on pages M1 to M4.



See Warranty Information on inside front cover.

Welding Welding Clamps

C-Clamps

Equipped with anti-spatter spindles that are precision cut from hardened steel. Forged frames have extra-deep throats for extra strength and work capacity. Grooved anvil in combination with a serrated pad provides a non-slip grip on all kinds of metal surfaces. Spindles, handles, and pads are copper plated to avoid collecting spatter in welding applications.

Stock No.	Capacity, inches	Throat Depth, inches
CL402A	0-2	2
CL403A	0-3	2 1/2
CL404A	0-4	2 7/8
CL406A	0-6	3 5/8

Stock No.	Capacity, inches	Throat Depth, inches
CL408A	0-8	4 1/2
CL410A	2-10	5 5/8
CL412A	2-12	5 3/4

CL402A



High Visibility C-Clamps

Similar to CL Series C-Clamps. High-visibility models conform to OSHA safety color standard for physical hazards regulation #1910.144. 3/4" spindle diameter.

Stock No.	Capacity, inches	Throat Depth, inches
CL404VIS	0-4 1/2	3 1/4
CL406VIS	0-6 1/16	3 5/8
CL408VIS	0-8 1/4	5

CL408VIS



Auto Body / Welding Sets

VGP104 Autobody/Welding Locking Pliers Set. Includes VGP23312 Self-Leveling Jaws Pliers, VGP13709 Plugweld Pliers plus VGP14412 and VGP12406 C-Clamp Pliers (4 pcs) in VGP1041 Kit Bag.

Locking Clamps

Quick and easy handling clamps for autobody and metal fabrication applications.

Stock No.	Jaw Capacity, inches (mm)	Length, inches (mm)
C-Clamps - Standard Tip		
VGP12406	2 5/16 (60)	6 (165)
VGP12412	3 15/16 (100)	12 (300)
VGP12418	10 1/4 (260)	18 (460)
VGP12424	15 11/16 (400)	24 (630)
C-Clamps - Swivel Tip		
VGP22406	1 5/16 (50)	6 (165)
VGP22412	3 15/16 (100)	12 (300)
VGP22418	9 7/16 (240)	18 (460)
VGP22424	15 11/16 (400)	24 (630)
C-Clamp - Long Reach		
VGP13420	10 5/8 (270)	20 (500)
C-Clamp - Aluminum Alloy		
VGP14412	3 1/2 (90)	12 (300)
U-Clamp		
VGP12509	2 5/16 (60)	9 (200)
Self-Leveling Jaws		
VGP23312	3 15/16 (100)	12 (300)
Sheet Metal		
VGP12808	1 3/4 (45)	8 (200)

Locking C-Clamps. Quick and easy handling clamps for autobody and metal fabrication applications.



VGP13420

Locking C-Clamps - Long Reach. Wide profile with perforated jaws allow clamping around large objects with uniform tension distribution.



VGP12509

Locking U-Clamp. U-shaped jaws allow access and perfect visibility when welding.

VGP22412



Locking C-Clamps - Swivel Tip. Swivel pads allow parallel clamping while preventing denting or gouging on delicate surfaces.



VGP14412

Locking C-Clamps - Aluminum Alloy. Lightweight aluminum jaw will not bend or distort body panels. Welding pellets will not adhere to jaw.



VGP12808

Sheet Metal. Wide jaws allows clamping, bending, forming and crimping of sheet metal without gripping effort.



"L" Tip. Clamps two lap joints.



"J" Tip. Clamps two flanged lap joints.



"W" Tip. Clamps lap joints allowing four consecutive spot welds without tool removal.



Standard Tip. Clamps two butt or adjacent joints.



"C" Tip. Clamps two flanged, lapped or adjacent joints.



Right Angle Tip. Clamps two sheet metal pieces of equal thickness at 90°.

Welding Clamps / Miniature

- Micro-size for optimal access into confined spaces.
- Aluminum alloy body ensures robustness with minimal weight while resisting splatter and corrosion.
- Design permits exertion of 1/2 ton of force without deformation.
- Perforated jaw allows attachment to fixtures and connection of ground cables.
- One-handed "NO PINCH" clamping and release.

MG2000K Micro Grip Locking Clamp Set. Includes 4 Micro-Grip Clamps.



MG2000K

Welding Clamps / Axial

Each clamp easily adjusts to the desired size. Quick release feature facilitates release of the clamp. Rugged construction for longer tool life.

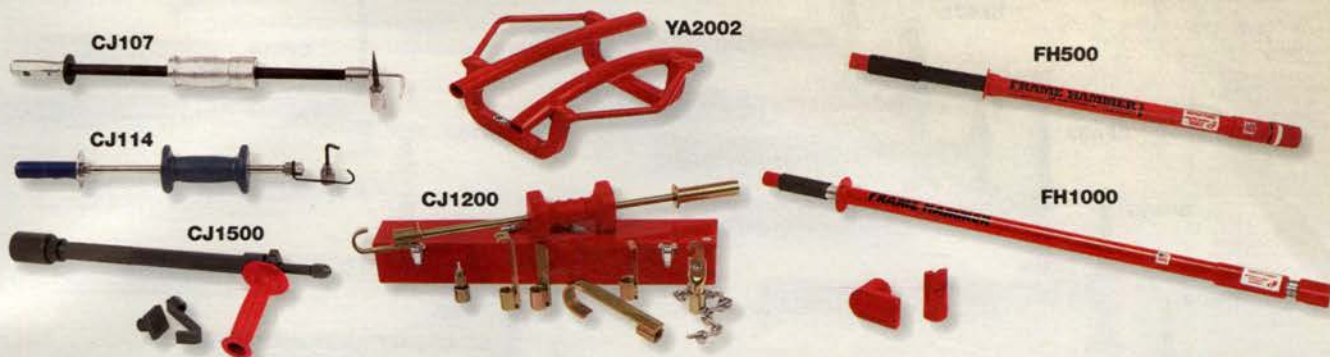
Stock No.	Tip	Jaw Capacity, inches (mm)	Jaw Width, inches (mm)	Throat Depth, inches (mm)	Length, inches (mm)
AX1LET	L-Tip	2 3/32 (18)	2 3/32 (18)	—	7 11/16 (195)
AX2JET	J-Tip	1 9/32 (15)	2 3/32 (18)	9/32 (7)	8 1/4 (210)
AX3WET	W-Tip	1 9/32 (15)	2 1/4 (57)	1 7/16 (36)	7 11/16 (195)
AX4SET	Standard	1 9/32 (15)	1 25/32 (45)	1 9/32 (15)	8 11/16 (220)
AX5CET	C-Tip	1 9/32 (15)	1 25/32 (45)	1 (25)	9 1/4 (235)
AX6RET	Right Angle	1 3/32 (10)	1 31/32 (50)	1 9/32 (15)	7 7/8 (200)

EXAXNE Axial Welding Clamp Rack.

Storage rack for AX Series Axial Welding Clamps.

AX106SET Axial Clamps Welding Set. Includes all six "AX" Series Axial Welding Clamps plus EXAXNE Rack.

Unibody and Frame Straightening Equipment



Pullers

CJ107 Body Dent Puller. Slide hammer action pulls out dent for filling. "L" hook included for larger jobs. 4 lb. slide hammer.

CJ114 Body Dent Puller. Mainly for rocker, quarter, back, and door panels. Includes screw for puncturing sheet metal, plus a bodyman hook and seal hook for larger jobs. 3 lb. slide hammer.

CJ1500 Body Dent Puller. Use as dent puller or impact hammer. Unique vertical handle offers maximum control. Removable weight allows use at 7.5 or 5 pound capacities. Includes hook, hammer cap and nose piece adaptors. 13.5" hammer stroke. Overall length (extended) of 35.25" Black industrial finish with red plastic handle.

YA2002 Quarter Panel Puller. Removes dents from rear quarters and wheel wells. Two 12" tubes (each with different dimensions) fit most wheel well openings. Use with chain attached to frame machine or portable power unit.

CJ1200 Slide Hammer Puller Set. Contains a 12 lb., contour-formed slide hammer and a variety of attachments for auto body repair work.



Alignment Bar

BM175 Alignment Bar. Use to align bumpers, window posts, wheel wells, panels, hoods, decks, and brackets. 6", 1/4" chain has hooks welded to each end for easy attachment to body components. 4 1/2" long, 1 1/2" diameter tubing.

Frame Hammers

FH500 Frame Hammer. Use on both conventional and unibody vehicles. Impact force of a 12 lb. sledge hammer. Reach tight spots with ease while eliminating secondary damage. Can be used on all metals. Head attachments interchangeable with FH1000 Frame hammer. Weight is 18 lbs. (8.2 kg). Overall length is 30.62" (777mm) closed, 49" (1,244 mm) open. Includes FH1000-3 Serrated Head.

FH1000 Frame Hammer. Use on both conventional and unibody vehicles. Reach tight spots with ease while eliminating secondary damage. Can be used on all metals. Weight is 21.2 lbs. (9.6 kg). Overall length is 47 3/4" (1,212.9mm).

Head Attachments:

FH1000-1 Toe Plunger. 90° angle toe plunger head for FH1000 Frame Hammer.

FH1000-2 Wedge Head. Wedge head for FH1000 Frame Hammer.

FH1000-3 Serrated Saddle. Serrated saddle head for FH1000 Frame Hammer.

FH1000-4 Chisel End. Hit tight spots with pinpoint accuracy. Reach inside tight access ports to beat out kinks and dents on the inside of the frame.

FH1000-5 Curved End. Adjust weld-on and bolt-on hinges. Make accurate hits for proper alignment.

FH1000-6 Hook End. Grab conventional frame rail to remove twists.

FH1000-7 Weight. Adds an additional 5 lbs. to the driving force of the hammer.

FH1000-8 Flat Baseplate. Massage large areas of metal to the original shape.

FH1000-9 10" Extension. Extends overall hammer length by 10" (254mm).

FH1000-10 19" Extension. Extends overall hammer length by 19" (482mm).

Body Jacks

YA1544



Body Jack Kit

YA1544 Body Jack Kit. 4-ton capacity kit includes hydraulic unit, five "Snap-Set" extensions, spreader plus a full selection of attachments for most push applications. Automatic pump overload system protects against damage to trams and equipment. 1/2-ton capacity hydraulic spreader has 2" jaw and spreads from 5/8" to 3 3/4". Flex-head includes permanently molded rubber pad. Heavy walled extensions tubes stand up to the toughest loads. Long handle reduces required pumping effort. Eighteen piece set is stored in durable plastic storage case.

YA303A



Turbo Air/ Hydraulic Pump

YA303A Turbo Air/ Hydraulic Pump.

Pump design uses exhaust air to power pump to provide 10,000 PSI while only using 80 PSI of air. Large reservoir capacity increases system flexibility. Air and hydraulic filters reduce potential for damage from contaminants. Horizontal or vertical operation by hand or foot.

YA303A Specifications

Recommended Air Pressure	40 to 150 PSI
Air Consumption	12 CFM
Oil Flow @ 100 PSI Of Air	50 cu in/min @ 0 PSI 8 cu in/min @ 10,000 PSI
Sound Level, dBA	79 dBA
Reservoir Capacity	150 cu in
Usable Oil Capacity, cu. in.	127 cu in (reduced to 70 cu in during vertical use)

Push-Pull Jack

BM101 Push-Pull Jack. Capable of 3000 lb. push-pull power. Aligns, straightens, and removes dents. Multipurpose hook on jack head, plus a hook on the 55" long friction rod. Three-position handle. Friction rod flexes to maintain constant pressure without bending, while the grooved end prevents slipping.



See Warranty Information on inside front cover.



WARNING

- Do not use chipped, mushroomed, or cracked hammers.
- Strike squarely and avoid glancing blows.
- Use only for striking sheet metal; do not strike hard surfaces.
- Read additional safety precautions on pages M1 to M4.





Hammers

BF618 Wide Nose Peen. Bumps odd fender contours.

BF632A Door Panel Hammer. For door and body panel bumping. Smaller diameter head is offset 45°. Has a fiberglass handle.

BF611 Picking and Dinging Hammer. Smooths small dents and for general dinging.

BF603 Long Spot Pick Hammer. For bumping when filing or where metal is covered with soundproofing material.

BF630 Spot Pick Hammer. Same design as BF603 except with blunted pick end.

BF604 Wide Nose Cross Peen Hammer. For finishing and caulking.

BF631 Cross Peen Shrinking Hammer. Combines the pick end of the BF604 and the serrated face of the BF617.

BF617 Square Face Shrinking Hammer. Extra-large faces for large-area work. Serrated for shrinking and smooth for finishing.

BF614 Long Picking Hammer. For turret and fender work.

BF610A Shrinking Hammer. Same design as BF617 except the serrated shrinking face is square, not round. Finishing head on other end.

BF606 Wide Face Bumping Hammer. For panel bumping. Round and square ends.

BF615 Reverse Curve Light Bumping Hammer. Use on doors, fenders, and panels.

BF608 Short Curve Cross Peen Hammer. Use under fenders with rolled edges. Use finishing face for dinging.

BF633 Body Hammer. General-use body hammer. Also use on doors, fenders, and panels. 11.5 oz.

BF634 Body Hammer. General-use body hammer. Use under fenders with rolled edges.

Specifications

Stock No.	Head Length, inches	Round Face Diameter, inches	Peen End Size, inches	Handle Length, inches	Head Weight, oz.
BF618	5	1 9/16	3/16 x 7/8	12	12 1/2
BF632A	6 5/8	1 1/4 - 1 5/8		13	16
BF611	4	1 15/32		12	8
BF603	6 1/8	1 19/32	1/16 x 7/16	13	12 1/2
BF630	6	1 19/32	1/4 x 7/16	13	12 1/2
BF604	5 1/2	1 5/8	5/8	13	11 1/2
BF631	5 1/2	1 7/8	5/8	13	11 1/2
BF617	4 1/2	1 7/8		13	16
BF614	8 5/8	1 5/8		17	16
BF610A*	4 1/4	1 7/8		13	16
BF606*	4 1/4	1 7/8		13	17
BF615**	4			12	12
BF608	5 5/16	1 5/8	5/8 x 1/16	13	11 1/2
BF633	5 5/16	1 19/32	1 1/16 x 5/64	13	11 1/2
BF634	5 1/2	1 35/64	5/8 x 5/64	13	11 1/2

ANSI Spec. B173.5

*Square face 1 5/8".

**Radius curve 1 5/16".

Fiberglass Handle Kits

Designed to fit any body hammer on Catalog 400 page E97. Kits include handle, ferrule, collar and caps, sealing tape, NUPLABOND®, and instructions.

BPH120 Fiberglass Handle Kit. (12") Handle Kit

BPH160 Fiberglass Handle Kit. (14") Handle Kit

Hickory Handles

Stock No.	Length, inches	Hammers Used On
BF603-2R	13	BF603, BF604, BF606, BF608, BF617, BF610A, BF630, BF631, BF632, BF633, BF634
BF611-2R	12	BF611, BF615, and BF618
BF614-2R	17	BF614

Body Tool Sets

2005BF



2005BF Body Tool Set.

Contains CJ114 Body Dent Puller, plus BF608 and BF611 Body Hammers, BF716A Dinging Spoon, and BF711 Heel Dolly (5 pcs). U.S. Fed. Spec. GGG-H-0020 and ANSI Spec. B173.5 apply.

2007BF Body Tool Set.

Seven of the most common tools necessary for professional body work are included in this set: BF716A Spoon; BF608, BF611, and BF617 Body Hammers; and BF710A, BF711, and BF712 Dollies. U.S. Fed. Spec. GGG-H-0020 and ANSI Spec. B173.5 apply.

2007BF



Snips



CD10A



CD12A



CD16A

Tinner's Snips

Cut straight, circular, or irregular patterns; right or left cuts. ASME/ANSI B107.16-1992 apply.

CD7A Duckbill Snips. 1 1/2" blades, 7" long.

CD10A Duckbill Snips. 2 1/4" blades, 10" long.

CD12A Combination Snips. 3" blades, 12" long.

CD16A Bulldog Snips. 2 1/2" blades, 16" long.

Aviation Snips

Offset blades allow cut material to flow beneath your hand without curling. Maneuverable for angle cutting or pattern configurations. Cuts up to 18-ga mild steel. 1 1/8" cutting edge. 9 1/2" long.

DAR9A Green Handled Snips. Right-hand cut.

DAL9A Red Handled Snips. Left-hand cut.



SNP2

Light-Duty All Purpose Snips

SNP2 All Purpose Snips. For a wide variety of cutting jobs such as light-gauge metal, leather, rubber tubing, plastic, cardboard, plants and more. Stainless steel blades and spring loaded, high-impact plastic handles with lock. Blade cutting length of 1 3/4" (45mm). Overall length of 7 5/8" (193.7mm).

Shears and Cutters



DAS30



DAS10B



KER235

Shop Shears

KER235 Shop Shears. For cutting upholstery materials and other lightweight cutting jobs. Stainless steel blades and comfort-molded plastic handles. Features cutting notch for rope or cable and adjustable pivot tension for personalized control. 9".



YA444A

Vinyl Cutter

YA444A Vinyl Cutter. Extremely sharp 4" blade produces a straight, clean cut. For use on interior and exterior vinyl trim and molding. Replaceable stainless steel blade. Includes additional blade that stores in handle.

YA444A-1 Replacement Blades.

Includes 3 replacement blades and anvil for YA444A.

Metal Cutting Shears

DAS30 Metal Cutting Shears Set (3 pcs). Serrated cutting blades. Narrow bodies allow metal to pass over shears. Oil and grease resistant grips. Each shear is 10 1/4" long. U.S. Fed. Spec. GGG-S-291E applies.

DAS10B Yellow Handled Shears. Straight cut.

DAR10B Green Handled Shears. Right-hand cut.

DAL10B Red Handled Shears. Left-hand cut.

Spoons and Dollies



BF710A



BF707



BF740



BF711



BF712



BF714



BF715A



BF716A

Steel Dollies

B173.5 -1991 applies to all dollies.

BF710A Toe Dolly. For dinging flat surfaces.

Measures 4 3/4" x 2 1/4" x 11/16". 2 1/2 lb.

BF707 Rubber Coating Heel Dolly. For use in sharp corners and wide radii. Rubber coating provides cushioning effect. Measures 3" x 2 1/2" x 1 1/2".

BF740 Shot Dolly. Heavy duty leather pouch is filled with 2.5 pounds of shot. Essential for supporting irregular shapes and contours on doors, fenders, and other body panels. Thin profile to get in tight areas. Will not scratch surface. 3 3/4" wide x 5 3/4" in length.

BF711 Heel Dolly. For use in sharp corners and wide radii. Measures 3" x 2 1/4" x 1 3/8". 2 1/4 lb.

BF712 General-Purpose Dolly. For deep, skirted fenders and shrinking when using heat. Measures 3" x 2 1/4" x 1 3/8". 2 1/4 lb.

BF714 Anvil Dolly. Fits contours. Small oval is for outside curves. Measures 4" x 2 3/4" x 3". 2 7/8 lb.

Spoons

BF715A Spoon Dolly. 14". For caulking and forming deep pockets in doors and panels. Head size is 2 1/2" x 1" x 3".

BF716A Light-Dinging Spoon. 10". Smoothes and levels ridges. Not for prying. Head size is 4 1/4" x 2".



WARNING

- Wear safety goggles (user and bystanders).
- Do not use chipped, mushroomed, or cracked hammers.
- Strike squarely and avoid glancing blows.
- Use only for striking sheet metal; do not strike hard surfaces.
- Read additional safety precautions on pages M1 to M4.



Body Riveting and Nut Setting

Riveting Kits

HP200A Riveter Kit. Includes HP2 Rivet Tool, 1/8" drill bit, and 200 assorted rivets in 1/8" and 3/16" diameters plus a 120° countersink.

HPKL2 Plastic Rivet Kit. For plastic rivets that hold fascia strips, inner fenders, and other plastic parts on GM, Ford, Chrysler, and VW. Set includes rivet setter and four styles of plastic rivets (two 5mm types, two 6.3mm types).

HP300 Large Blind Rivet Kit. Extra-long handled riveter. Includes three nosepieces. 21" long riveter. Includes a bag of 50 KLIK-SPLIT® rivets. Reorder quantities of KLIK-SPLIT® and KLIK-FAST® rivets are packaged 50 per bag.

PL300 Rivet Tool Kit. Includes PL30 Rivet Tool, a wide assortment of open and closed rivets in 3/32", 1/8", 5/32" and 3/16" sizes plus plastic storage case with individual storage compartments for rivets.



HP200A



PL300



HPKL2



HP300



HP2

HPS202



HP302C

HP301C



PL30



HP310



HP320

Riveting Tools

HP2 Rivet Tool. Has four nosepieces for 3/32" to 3/16" diameter rivets. For 1/8" thru 5/8" thickness. Made of aluminum alloy.

HP30N Optional Rivet Nosepiece. Use with HP2 Rivet Tool to replace OEM-welded studs on trim molding. For rivets with 1/8" body diameter, 13/64" head diameter.

HP302C Swivel-Head Rivet Tool. Head swivels 360° to rivet at any angle. Fasten metal, leather, canvas, and vinyl using 1/8", 5/32", or 3/16" rivets. Four interchangeable nosepieces store in handle when not in use.

HP301C Heavy Duty Air Rivet Tool. Sets structural rivets, KLIK-FAST® rivets from 5/32" to 1/4" diameter in all alloys plus KLIK-SPLIT® / Monobolt rivets from 3/16" to 1/4". Requires only 85 to 95 PSI. 1/2" NPT threads. Delivers 3,300 lbs. of work force at 0.625" (15.8 mm) stroke. Includes 5/32", 3/16" and 1/4" nosepieces plus mandrel collection bottle. Overall weight is 6.6 lbs. (3.0 kg).

HP302C Light Duty Air Rivet Tool. Smaller, lighter version of HP301C. Sets blind rivets from 1/8" to 3/16" diameter in all alloys plus 3/16" KLIK-SPLIT® and Monobolt rivets. Includes 1/8", 5/32" and 3/16" nosepieces plus mandrel collection bottle.

PL30 Rivet Tool. Use with a wide range of open end rivets (3/32", 1/8", 5/32" and 3/16") and closed end rivets (1/8", 5/32" and 3/16"). Compound link design provides a 30 to 1 mechanical advantage. Innovative latch keeps handles closed without chains or wires. Short handle design for true one hand operation. Jam-free front end design. Four interchangeable nosepieces are stored on inside of handle. ISO9001 and QS9000 Certified.

HP310 Air Rivet Tool. Sets 3/32" to 1/4" diameter rivets in all materials. Can also set T-Rivet/Klik-Split®, Klik-Lock™ and all other structural rivets. Includes 3/32", 1/8", 5/32" and 1/4" nosepieces plus mandrel collection bottle.

HP320 Air Rivet Tool. Sets 1/8" to 3/16" diameter rivets in all materials. Includes 1/8", 5/32" and 3/16" nosepieces plus mandrel collection bottle.

Stock No.	HP301C	HP302C	HP310	HP320
Recommended Air Pressure	85-95 PSI	85-95 PSI	85-95 PSI	85-95 PSI
Air Consumption, Average, CFM (SCFM) [L/MIN]			5 (36) [141.58]	5 (29) [113.27]
Air Inlet Thread Size	1/2" NPT	1/4" NPT	1/4" NPT	1/4" NPT
Traction Power	3,300 lbs.	1,985 lbs.	3,055 lbs.	1,983 lbs.
Stroke	0.625" (15.8mm)	0.625" (15.8mm)	0.562" (14.3mm)	0.551" (14.0mm)
Overall Length			12" (304.8mm)	11" (279.4mm)
Weight	6.6 lbs. (3.0 kg.)	4.2 lbs. (1.91 kg)	4.2 lbs. (1.91 kg.)	3.3 lbs. (1.50 kg.)

Nut Setting / Thread Setting Kits

HPS302 Swivel-Head Nut Setting Tool. Head swivels 360° to accommodate Nutserts at any angle. Approximately 14" in overall length. HPS302 will only work on Nutserts, cannot be used as a Riveter.

HP650 Thread Setter Kit. Includes rugged thread setter tool and an assortment of fractional Klik Poly-Nuts: 12 each 8-32, 10-24, 10-32; eight 1/4"-20, and six 5/16"-18 threads. Equipped with the required nosepieces and mandrels for setting the above sizes. The set is packaged in a plastic case.

HP650M Metric Thread Setter Kit. Metric version of the HP650 with metric poly-nuts, including 25 each 4mm and 5mm, fifteen 6mm, and ten 8mm threads. Includes thread setter tool, required nosepieces, and mandrels and is packaged in a plastic case.

E113



HPS302

HP650M



▲ Read safety precautions on pages M1 to M4.

Files

Nib File

BF193 Nib File. Removes unwanted paint runs. Helps eliminate dribbles and paint drops. Gently shaves run without digging into surface.

GA616



BF193



BF775C



File Handles

Wooden, twist-on handles with case-hardened threaded steel inserts.

GA616 File Handle. Wooden twist-on handles with case-hardened threaded steel inserts.

GA617 File Handle. Wooden twist-on handles with case-hardened threaded steel inserts.

GA618 File Handle. Wooden twist-on handles with case-hardened threaded steel inserts.

BF775C Flexible File Handle. Light and rigid with a large aluminum handle, an adjustable turnbuckle, and a permanently attached strap.

Rigid Curved-Tooth Files

8CT Rigid-Style Curved Tooth File. 10 1/4", 8 teeth per inch. Standard cut. Use with GA616 Handle.

10CT Rigid-Style Curved Tooth File. 12 5/8", 8 teeth per inch. Standard cut. Use with GA617 Handle.

12CT Rigid-Style Curved Tooth File. 15", 8 teeth per inch. Standard cut. Use with GA618 Handle.

14V



Flexible Curved Tooth Files

14V Flexible-Style Curved Tooth File. 14", 8 teeth per inch. Rough cut. Use with BF775C Handle.

14V12 Flexible-Style Curved Tooth File. 14", 12 teeth per inch. Fine cut. Use with BF775C Handle.

Window and Windshield



Window and Windshield Removal Tools

GA243 Molding Release Tool. Use to remove window and windshield moldings on cemented glass.

YA108A Hot Tip Windshield Removing Kit. Electric tool has large main handle, plus swing handle for leverage and maneuvering ability. Operates on 120V to produce +700°F. Includes 5 blades: standard, inside cutout, plow, sealant track, and "J" blade. Tool is 13" long. Use 3-conductor cord and grounding plug. For 1974 and later windshields.

YA109A Windshield Removal Tool. Steel cable pull handle. Replaceable steel cutting blades can be resharpened. For GM, Chrysler, and other cars with windshields set in place with sealant.

WK100 18" Windshield Knife. Cuts hardened urethane down to the dash. Flush blade retention screw helps prevent damage to the dash and moldings. Rigid aluminum shaft will not flex. Long length provides cutting leverage and reach. Cushion grip handle for extra comfort. Includes 1 blade. 18" long. Uses YA1860 Replacement Blades.

WK200 24" Windshield Knife. Cuts hardened urethane down to the dash. Flush blade retention screw helps prevent damage to the dash and moldings. Rigid aluminum shaft will not flex. Long length provides cutting leverage and reach. Vinyl grip handle for extra comfort. Includes 1 blade. 24" long. Uses YA1860 Replacement Blades.

A192 Windshield Wiper Arm Removal Tool. Designed to easily remove wiper arms on most vehicles. Provides both wide and narrow prying ends. Do not use on wiper arms bolted to the shaft.

YA208A Windshield Locking Strip Installation Tool. Wedge openings in two widths make short work of installing nearly all locking strips. Includes special tip for Dodge truck applications. 4" contoured handle and 4" metal shank.

PWC21 GM Window Clip Remover. For closing GM window retaining clips. Vinyl grips and spring-loaded jaw return.

S9610 Window Sash Nut Spanner Socket. 3/8" drive and 15/32" long. For GM and Chrysler cars and light trucks.

WSC2



YA5200A



Window Scrapers

WSC2 Plastic Blade Window Scraper. Scrapes windows, windshields, and more. Includes a plastic blade or use any standard, single-edge razor blade. 8" long tool folds to only 4 5/8".

YA5200A Razor Blade Scraper. Unique shape fits into tight spots such as the area between dash and windshield. Use any standard, single-edge razor blade. Storage for extra blades in screwdriver-style handle. 11" long.

See Warranty Information on inside front cover.



WARNING

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- Do not use chipped, mushroomed, or cracked hammers.
- Strike squarely and avoid glancing blows.
- Use only for striking sheet metal; do not strike hard surfaces.
- Read additional safety precautions on pages M1 to M4.



Body

Window Holder

YA6390 Window Holder. Holds side window glass up when working on the regulator. Suction cups are attached to both sides of the glass with a cable going over the door frame preventing the glass from falling down the door.

Window and Windshield



Specialty Tools



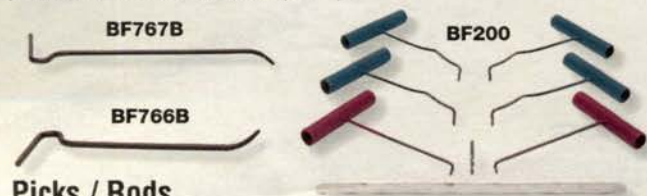
Suction Cups

BF801 Heavy-Duty Suction Tool. Pull out dents or handle glass. The handle of this suction cup increases pulling power. 5" suction cup.

BF802 Heavy-Duty Dual Suction Cup Tool. For pulling more stubborn dents or lifting larger materials. Handle has plenty of room for two hands. Trigger releases both 4" cups simultaneously.

BF803 Suction Cup. Two finger grips for easy lifting, two projecting tabs for quick release. 3 1/4" diameter.

BFT800 Suction Cup Holder Set. Use to secure windshield moldings, protective moldings, door moldings and emblems in place while gluing, setting up trim and other lightweight components. Just place suction cup in position, slide clamping arm over the threaded rod, and tighten wingnut to desired pressure. Set includes 5 suction cup clamps.



Picks / Rods

BF766B Body Pick. Point curves at right angle to handle. 3/8" stock. 14" long.

BF767B Body Pick. Point curves at right angle away from handle. 9/16" stock. 18" long.

BF200 Pull Rod Set. Drill 9/64" holes and pull metal to shape. Includes four pull rods, two pick pulls, a straight edge, and a drill bit. Rods lift metal without distortion. No need to remove upholstery.

Body Panel Tool

S6191 Body Trim Socket. Removes body trim fasteners from 1993-98 Mercury Villager, 1993-98 Nissan Quest and 1997-98 Ford Expedition.



Wheel Well

YA1780 Wheel Well. Trim Removal Tool. Designed to make installation or removal of wheel well opening molding an easier task. #2 PHILLIPS® bit included. Use with 1/4" ratchet.



Water Body Dye

YAUWATER Water Body Dye. Ideal for use by auto body and glass repair shops. Fluorescent dye easily detects gaps causing wind noise plus leaks around sunroofs, door trim, trunk lids, window seals and windshields. Simply mix bottled dye with water and spray over outer area. Check for leaks with UV lamp. Easily cleaned off with water after repair. Recommended for use with ACTUUVITEA UV Light Kit.



Sanding

BF185A Sanding Block. For flat or curved surfaces with wet or dry sandpaper. 5" x 2 3/4".

BF189A Sanding Block. For flat or curved surfaces with wet or dry sandpaper. 9" x 2 3/4".

BF190 Sanding Block. All-purpose, multi-radius, edge, and flat sander. Flexible body conforms to most sanding surfaces. 5 1/2" long.

BF191 Round Sanding Block. Uses standard 6" diameter PSA abrasive disk. Formed from lightweight, durable material that resists most shop chemicals. Comfortable handle is engineered to evenly distribute hand pressure for positive control in any direction.

BF192A Sanding Block. Double-sided, wet/dry sanding block. Soft side sands irregular surfaces. Stiff side sands flat and curved surfaces.

BF195 Sanding Block. Multipurpose, radius, groove angle, and corner sander. Flexible body conforms to most surfaces. 5 1/2" long.

BF194 Hand Sander. Radius, groove angle, and corner sander. Flexible body conforms to most sanding surfaces. 2 1/2" long. Similar to BF195.



Bumper Cover Paint Stand

BFS1000A Bumper Cover Painting Stand. Stand holds the bumper cover securely for painting. Five different locking positions on the stand and full 90° rotation provide maximum versatility. Lightweight at 23 pounds and compact to store. Casters provide full mobility.

BFS1000SM Visor/Spoiler Kit. Easily mounts to BFS1000 Bumper Cover Painting Stand. Holds and positions visors and spoilers. Full 360° Rotation. All metal construction.



Inflatable Dent Removers

BF275 Inflatable Dent Removal Set. Ideal for door and body panel repair. Use hand pumped air pressure to push dents out from the inside of door and fender panels. Includes BF275-1 Square and BF275-2 Oblong Inflatable Dent Removers. Use BF275-1 for removing dents in tight corners, along welded seams and panel edges. Use BF275-2 for longer, more accessible dents. Units may be used stacked or side by side. Perfect for paintless body repair. Eliminates high points caused by body slide hammers and picks. Each dent remover includes 5-foot (1.52m) of air hose with an oversize pump bulb for long reach.

BF275-1 Inflatable Dent Remover. Square Inflatable Dent Remover measures 8" x 8" (203mm x 203mm).

BF275-2 Inflatable Dent Remover. Oblong Inflatable Dent Remover measures 8" x 14" (203.2mm x 355.6mm).

Door Tools - Body



Soft Grip Trim Pad Tools

Remove fasteners that secure door panels and trim pieces without damage to panel or trim. Soft grip handles with contour thumb stop. Distinct pivot point is designed for appropriate leverage and to discourage twisting that may damage panel or trim piece. Use on most domestic and import vehicles.

Stock No.	Opening Size, inches	Blade Width, inches	Overall Length, inches
ASG185	7/32	9/16	10
ASG186	3/8	13/16	10
ASG187	3/8	13/16	20
ASG188	7/16	13/16	10
ASG189	7/16	13/16	20

ASG103 Soft Grip Trim Pad Tool Set. Includes ASG185, ASG186 and ASG187 (3 pcs) in a plastic tray.



Upholstery and Trim Tools

Remove door and trim panels quickly without damage. Wide blades on door tools reduce risk of damage during panel removal. Stainless steel blades are heat treated for rigidity. Comfortable composite handles feature a contour thumb stop for maximum control. Handles are black with red accent.

Stock No.	Description	Blade Width, inches (mm)	Overall Length, inches (mm)
UTV614	"V" Double Step Blade Door Panel Tool	1 1/4 (31.8)	9 1/8 (231.8)
UTV615	"U" Blade Door Panel Tool	1 1/4 (31.8)	9 1/8 (231.8)
UTV616	"U" Blade Mini-Trim Panel Tool	1/2 (12.7)	9 (228.6)
UTV617	"V" Blade Mini-Trim Panel Tool	1/2 (12.7)	9 (228.6)
UTV618	Reverse "U" Blade Door Panel Tool	1 1/4 (31.8)	10 (254)

UTS105 Upholstery Set. Includes UTV614 thru UTV618 Door and Trim Panel Tools.



Door Handle / Trim Pad / Trim Nuts

DPT7A Door Tool Set. Includes the following seven most needed tools for removing or replacing door trim, trim pads, and handles. Tools are neatly arranged in a plastic tray.

A159 Door Handle Tool. For most GM cars and trucks—except Cadillac, plus some Ford cars. Plastic-dipped offset handle. 10 7/8" long.

A161B Trim Pad Remover. For GM, Ford, and Chrysler. Features a screwdriver-type handle. 7 3/4" long.

A177A Trim Pad Remover. For GM and most imports. Same design as A161B except for different applications. 7 1/2" long.

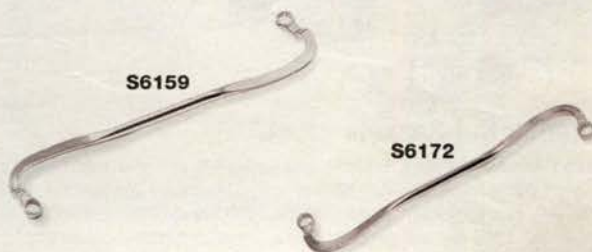
A179A Trim Pad Remover. For all GM door trim panels. Curved blade helps remove plastic clips and nail-type clips without damage to either the clips or the trim.

S9614 Trim Nut Driver. Similar to S6103 but is for use with 5/16" internal hex trim nuts. 1/4" drive, 1 7/8" long overall. (for GM)

S9538A Door Handle Tool. For most late-model Chrysler cars. Hook end is designed for use on older-style handles.

S6103 Door Trim Palnut Driver. For Ford and GM vehicles. For easy servicing of 3/8" internal hex trim nuts used on door trim panels and molding. 1/4" drive, 1 7/8" long overall.

A181 Trim Pad Remover. Services plastic trim fasteners on Honda, Toyota, Acura, Hyundai, and some Ford trucks. Similar in design to A161B. 7 1/2" long.

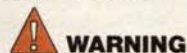


Door Hinge Bolt Wrenches

Door Hinge Bolt Wrenches. Each wrench features the famous Snap-on® FLANK DRIVE® wrenching system and has a nickel-chrome finish.

S6159 Metric Door Hinge Wrench. 12mm. Special design accommodates 1986 and later Subaru vehicles and 1977 and later Datsun/Nissan, Toyota, and Honda.

S6172 Metric Door Hinge Wrench. 13mm. Services late-model domestic cars and Chrysler, Ford, and GM pick-up trucks. Similar in design to S6159.



WARNING

• Read additional safety precautions on pages M1 to M4.



See Warranty Information on inside front cover.

E116



Specialty Door Tools

YA331 Clip Removal Tool. Tapered forks slide under most types of auto body clips; then a squeeze of the handles pops the clips out. Has red, vinyl-covered handles.

YA218 Door Removal Kit. For current GM and Chrysler cars. Removes vehicle doors with welded hinges, both solid and hollow hinge pins. Complete with hinge pin breaker lever, pulling plate, clip clamps, spring compressor, and an assortment of barrel nuts and pulling pins.

YA1201 Door Panel Remover. For GM and Ford vehicles. Designed to prevent plastic barbed fasteners from being pulled through the panel.

YA214 Door Hinge Adjuster. Adjusts door hinge position on most vehicles. Works on either bolted or welded hinges. A two-headed pin adaptor allows adjustment on doors with both small and large latches. 24" in overall length.

YA215A Door Panel Tool. Designed to fold the new door panel lip over in one easy operation. Minimizes outer door damage or the need for plastic filler to repair hammer or dolly marks. 5" long. This is a non-impact tool.



Lock Picks / Lockout Tools

LPK620 Master Lock Pick Set. 37-piece set includes a 6-piece import rocker pick set, a 12-piece pick set for GM vehicles, a 5-piece Ford automotive rocker lock pick set, a 6-piece Chrysler lock pick set, a 6-piece set for wafer locks on import vehicles, a harpoon pick for removing broken keys, a tweezer-type universal lock-turning wrench, and a gas cap pick tool.

YA511 Lock-out Tool Set. Contains 17 specialized tools for unlocking car, van, and truck locks. Includes many of the components of the YA501E Set plus additional service components, such as a gas cap pick tool for expanded capability. Also includes a penlight and instruction manual and is packaged in a multi-compartment kit bag.

YA501E Lock-out Tool Set. Contains 15 specialized tools for unlocking car, van, and truck locks. Includes J-tool for Japanese vehicles, as well as GM tool to service Caprice, Buick, and Oldsmobile vehicles. The included Chrysler tool also services Camry vehicles. High-intensity flashlight and instruction manual also included.

YA521 Lock-out Tool Guide. The YA521 is a comprehensive and illustrated guide showing the best tool and method for unlocking most current-model vehicles.

YA610A Lock-Opening Reforming Tool. Reforms damaged lock openings to original contour on GM, Ford, Chrysler, and most import cars.

BF272 Inflatable Wedge. Offers safe entry in a lockout situation without damage to the body finish. Slip the deflated unit between door frame and body, inflate wedge by slowly apply pumping pressure to pull the door away from vehicle body. The tool can also be used to gain entry by separating the weather stripping away from the vehicle window or to adjust body panels.

YA520 Door Lockout Kit. Kit includes two (2) plastic wedges to create gap between door and frame, Day-Glo yellow easy access jim to reach inside door handles and plastic slip jam for use on door knobs.

Antenna and Mirror



Antenna Nut Sockets

S6181 Antenna Nut Socket. Four-prong socket has an 11/16" external hex and a nickel/chrome finish. Services 1988 to 1990 GM Cavalier and Sunbird; 1988 to 1990 GMC pick-up trucks C and K; 1989 to 1990 Lincoln Town Car and Continental; 1990 Toyota Camry and Celica; Chrysler/Mitsubishi Lazer and Eclipse; Mitsubishi Galant and Sigma.

S6166 Antenna Nut Socket. Three-prong socket has an 11/16" external hex. 3/4" in diameter, 1 1/2" long. Nickel-chrome finish. Services 1987 and later Chrysler vehicles.

S6179 Antenna Nut Socket. Two-prong socket has an 11/16" external hex and a nickel/chrome finish. Services Acura and Toyota. Also remote control mirror bezel nut on 1981 and later Ford and Mercury.

S9625C Antenna Nut Socket. Four-prong socket has a 3/4" external hex. Overall length is 44.5 mm. Nickel-chrome finish. Services 1977 and later GM cars.

2160ANT Antenna Wrench. Four different configurations in wrench will fit most antenna bezel nuts on domestic and imported vehicles. 10mm opening for removing mast-type antennas. Measures 7 1/4" x 1 1/2" x 1/8". Blue anodized finish.



Mirror and Radio Trim Sockets

YA7575 Ford Radio Removal Tool. Offers a quick and easy method for removing the radio from the dash on Ford vehicles. Insert tool components into holes on the radio faceplate to release the retaining clips on the radio.

Applications on 1987 and later Mustang, 1988 and later Tempo/Topaz, 1989 and later Continental, 1990 and later Taurus/Sable, Ranger Bronco II, Probe, Lincoln Town Car, Mark VII, Crown Victoria/Grand Marquis, Thunderbird/Cougar, F-Series pickups, E-Series vans, 1991 and later Explorer, and 1995 and later Windstar. Same as Ford No. T87P-19061-A.

S8703 Remote Control Mirror Socket. Hollow socket clears adjustment lever. Two-prong socket has a 3/8" square drive. 19/32" diameter on drive end; 21/32" diameter on socket end. 2 1/16" long. Nickel-chrome finish. Services many Ford and VW vehicles.

S9605B Radio Trim Nut Socket. Similar in appearance and function to S8703. 1/4" square drive. 7/16" diameter on drive end; 9/16" diameter on socket end. 2 5/16" long. Nickel-chrome finish. Services some GM and Ford cars.

General Service Tools

YA2550



SWDK4



Spot Weld

YA2550 Spot Weld Drill Bit Kit. Cutters are designed to remove the entire spot weld rather than cut around it. No prepunching necessary. Special design minimizes drill bit "walk" and allows drilling at an angle. Cutters feature replaceable center drill bits.

YA2550-1 Cutter. 5/16", 2" long.

YA2550-2 Cutter. 3/8" 2" long.

YA2550-3 Cutter. 5/16" 3" long.

YA2550-4 Cutter. 3/8" 3" long.

YA2550-5 Center Drill Bits. Package of 4.

YA2550-6 Kit Bag

SWDK4 Spot Weld Cutter Set. Four piece cutter set is designed for high speed cutting of up to 2,000 rpm. Self-centering points minimize walking.

SWDK412 Spot Weld Cutter. 1/2".

SWDK414 Spot Weld Cutter. 1/4".

SWDK438 Spot Weld Cutter. 3/8".

SWDK4516 Spot Weld Cutter. 5/16".



BFLIGHT1500

- Medium Wave System
- 1500 watts of curing power over a 2' x 3' area
- Heavy duty stand adjusts to over 6' high for curing hoods and roofs
- Parabolic reflector for even heat distribution

Infrared Curing Light

Stock No.	Lamp Length, inches (mm)	Electrical Requirements	Shipping Weight, lbs. (kg)
BFLIGHT1500	36 (914.4)	120VAC, 12.5 Amps, 1500 Watts	24 (10.9)

Headlamp

Light Meter and Screen

B4A7 Aiming Screen. For aiming headlamps on vehicles where mechanical aiming isn't possible.

HE52B



Headlamp Spring Tools

HE52B Headlamp Spring Tool. For servicing alignment springs. Consists of a 3/16" diameter shank anchored in a screwdriver-style handle. 7" long.

E103 Headlamp Spring Tool. Longer version of HE52B. 12 3/4" long.



Headlight Aiming Kit and Adaptors

HA1016B Headlamp Aiming Kit. For use with round and rectangular headlamps. Complete with instructions. Includes the following:

B4A1 Passenger Side Aimer. Use with B4A2 Aimer.

B4A2 Driver Side Aimer. Use with B4A1.

B4A3 Large Adaptor. For 7" circular lamps with aiming pads.

B4A4 Small Adaptor. For 5 3/4" circular lamps with aiming pads.

B4A13 Large Aerodynamic Adaptors. For large lamps (one pair).

B4A14 Small Aerodynamic Adaptors. For small lamps (one pair).

B4A6 Floor Adaptor. Compensate for uneven floor surfaces and calibrate aimers.

B4A15 Mini-Quad Adaptors. For 92mm x 150mm lamps (one pair).

B4A8A Plastic Case. Sturdy plastic case provides protection for aimers and adaptors, and headlamp spring tools.

B4A5 Rectangular Adaptor. For 4" x 6 1/2" lamps with aiming pads in four lamp systems.

B4A10 Rectangular Adaptor. For 5 1/2" x 8" lamps in two lamp systems.

B4A12



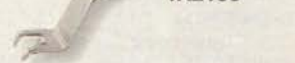
YA1440



RBVF445



YA2155



Headlamp Adjusters

B4A12 Adjuster. For rounded headlamps. For making quick vertical adjustments. Bubble level shows when vertical alignment is correct.

YA1440 Adjuster. For Ford aerodynamic headlamps on late-model cars and pick-ups. Services 4mm hex headlight adjusting bolts. 2 1/2" long.

RBVF445 Ratcheting Headlight Wrench. 8" overall length allows access to headlight adjustment screws. Applications on late model Ford vehicles with 4mm and 4.5mm adjusters (found on aerodynamic designs) and headlamps with rear mount adjusters.

YA2155 Headlight Retaining Clip Tool. Quickly remove/install headlight retaining clips on 1987 to current Ford vehicles without incurring damage to the clip. The tool easily fits into confined spaces and is 9 3/8" long. Chrome finish.



WARNING

- Read additional safety precautions on pages M1 to M4.



Paint Spray Spray Guns (HVLP)

Gravity Feed / High Output

BF900EXC14 Spray Gun. One gun for all finishes. Handles all high solid colors and clears with one set-up. High Output material flow allows proper film build for texture-free clear coats and exceptional D.O.I. (Distinctness Of Image). High Output set-up is very friendly and flexible to a painter's style and speed (no changes or special adjustments are needed.) Atomization never before available with HVLP spray equipment. Production speed equal to conventional equipment at any spray distance. 1.4mm fluid tip. Includes BF750 Aluminum Gravity Cup.

Gravity Feed / Low Volume

Superior atomization. Very low overspray. Air regulator reads both inlet air pressure and air cap spraying pressure. Requires only 7.5 CFM air consumption.

BF900EXC3 Spray Gun. 1.5mm fluid tip. Includes BF750 Aluminum Gravity Cup
BF900EXC6 Spray Gun. 1.3mm fluid tip. Includes BF750 Aluminum Gravity Cup
BF900EXCG3 Spray Gun System. Includes BF900EXCG3 HVLP Spray Gun, BF750 Aluminum Gravity Cup, BF703 Nylon Gravity Cup, and BF1210 "Green Zone" Air Regulator.

BF900EXCG6 Spray Gun System. Same as BF900EXCG3 System except uses BF900EXCG6 HVLP Spray Gun.

Gravity Feed / General Use

BF813HVLPA/BF815HVLPA/BF817HVLPA only. Engineered and manufactured using the latest CNC technology. Rugged design for everyday use. Larger uniform spray pattern. Designed for today's complex refinish systems. Fully complies with all HVLP/Compliant Standards worldwide. Each gun in this series comes complete with the BF703 Nylon Gravity Cup.

BF813HVLPA Spray Gun. 1.3mm

BF815HVLPA Spray Gun. 1.5mm

BF817HVLPA Spray Gun. 1.7mm

BF350HVLPA Spray Gun. Fine atomization for high efficiency. Environmentally favorable HVLP system provides low air consumption and high transfer efficiency. Designed for right or left hand use. Cup capacity of 1 pint. OPTIONAL FLUID TIP/CAP SIZES: BF350HVLPA13 (1.3mm), BF350HVLPA17 (1.7mm).

Gravity Feed / Detail Gun

BF515HVLPA Detail Gun. Ideal for all types of touch-up and detail work. Features superior atomization with low air consumption. Infinitely variable (round to flat) fan control. Sprays all automotive coatings. Designed for left or right-handed use. 1.4mm fluid tip. Includes BF7505 4 oz. Aluminum cup.

BF325HVLPA Detail Gun. Ideal for all types of touch-up and detail work. Sprays automotive coatings. Very low over spray and fine atomization. Designed for right or left hand use. Cup capacity is 3 oz. OPTIONAL FLUID TIP/CAP SIZES: BF325HVLPA8 (0.8mm), BF325HVLPA12 (1.2mm).

Gravity Feed / Primers

Two-piece drop forged construction. Every gun tested to insure high performance. Each gun in this series comes complete with the BF703 Nylon Gravity Cup.

BF700HPG15 Spray Gun. 1.5mm fluid tip.

BF700HPG23 Spray Gun. 2.3mm fluid tip.

BF900EXC3

BF900EXC14

BF700HPG15

BF815HVLPA

BF515HVLPA

BF350HVLPA

BF325HVLPA

Pressure Feed

Superior atomization with all automotive and industrial coatings. Stainless steel fluid passage. Superior corrosion resistant NIFLOR™ fluid tip. Cup pressure regulator adjusts fluid delivery speed for perfect atomization.

BF595SYS30 Spray Gun System. Includes BF595H30 HVLP Spray Gun, BF602 Cup Assembly, and BF1400 Pressure Regulator.

BF595SYS45 Spray Gun System. Includes BF595H45 HVLP Spray Gun, BF602 Cup Assembly, and BF1400 Pressure Regulator.

BF595H30 Spray Gun. 0.8mm fluid tip.

BF595H45 Spray Gun. 1.2mm fluid tip.

Specifications—Gravity Feed HVLP Spray Guns

	Fluid Tip	Air Consumption	Air Cap Pressure	Air Inlet Thread Size	Inlet Pressure	Application
<i>Gravity Feed / High Output</i>						
BF900EXC14	1.4mm	12.9 CFM	10 PSI	1/4" M.P.T.	30 PSI	High solids, colors and clears
<i>Gravity Feed / Low Volume</i>						
BF900EXC3	1.5mm	7.5 CFM	10 PSI	1/4" M.P.T.	50 PSI	Medium solids, colors and clears
BF900EXC6	1.3mm	7.5 CFM	10 PSI	1/4" M.P.T.	50 PSI	High solids, colors and clears
BF900EXCG3	1.5mm	7.5 CFM	10 PSI	1/4" M.P.T.	50 PSI	Medium solids, colors and clears
BF900EXCG6	1.3mm	7.5 CFM	10 PSI	1/4" M.P.T.	50 PSI	High solids, colors and clears
<i>Gravity Feed / General Use</i>						
BF813HVLPA	1.3mm	12.9 CFM	8 PSI	1/4" M.P.T.	43 PSI	High solids, colors and clears
BF815HVLPA	1.5mm	12.9 CFM	8 PSI	1/4" M.P.T.	43 PSI	High solids, colors and clears
BF817HVLPA	1.7mm	12.9 CFM	8 PSI	1/4" M.P.T.	43 PSI	High viscosity materials including enamels
BF350HVLPA	1.5mm	13 CFM	10 PSI	1/4" M.P.T.	50 PSI	All automotive colors and clears
<i>Gravity Feed / Primers</i>						
BF700HPG15	1.5mm	13.9 CFM	10 PSI	1/4" M.P.T.	40 PSI	High solids, primers and sealers
BF700HPG23	2.3mm	13.9 CFM	10 PSI	1/4" M.P.T.	40 PSI	High viscosity primers
<i>Gravity Feed / Detail Gun</i>						
BF515HVLPA	1.4mm	2.9 CFM	10 PSI	1/4" M.P.T.	40 PSI	All automotive colors and clears
BF325HVLPA	1.0mm	4 CFM	10 PSI	1/4" M.P.T.	50 PSI	Touch-up and detailing with clears and colors

Specifications—Pressure Feed / HVLP Spray Guns

	Fluid Tip	Air Consumption	Air Inlet Thread Size	Fluid Inlet	Application
BF595SYS30	0.8mm	13.9 CFM	1/4" M.P.T.	3/8" M.P.T.	All automotive colors and clears
BF595H30	0.8mm	13.9 CFM	1/4" M.P.T.	3/8" M.P.T.	All automotive colors and clears
BF595H45	1.2mm	13.9 CFM	1/4" M.P.T.	3/8" M.P.T.	Primers and heavy viscosity materials
BF595SYS45	1.2mm	13.9 CFM	1/4" M.P.T.	3/8" M.P.T.	Primers and heavy viscosity materials

BF595SYS45



Spray Guns (Non-HVLP) Paint Spray

Gravity Feed

BF814 Spray Gun. Designed to provide a perfect mixture of fluid and air resulting in flawless basecoat applications and clear coat finishes. Superior corrosion resistant NIFLOR™ Fluid Tip. Deluxe fan and fluid adjustments. Larger uniform spray pattern. Includes BF703 Nylon Gravity Feed Cup.

BF375 Spray Gun. General purpose air cap sprays lacquers, metallics and urethanes. Handles a wide range of viscosities from fine surface finishes to heavy body coatings. Designed for left or right hand use. Cup capacity is 1 pint.

Pressure / Siphon Feed (Deluxe)

Offers the painter every advantage available in a conventional spray gun. Superior corrosion resistant NIFLOR™ Fluid Tip. Stainless steel fluid passage. Deluxe fan and fluid adjustment. Self-aligning air cap for a perfect pattern. Two-piece, drop-forged construction.

BF590 Spray Gun. .070" fluid tip.

BF590P Spray Gun. .045" fluid tip.

BF590A97 Spray Gun. .055" fluid tip.

BF675 Spray Gun System. Includes BF590P Spray Gun, plus BF652 Pressure Cup and BF7130 Hose Kit.

Pressure / Siphon Feed (Standard)

BF501 Spray Gun. Heavy duty, rugged production spray guns. Self-aligning air cap for a perfect pattern. Outstanding performance and reliability.

Pressure Feed / Detail Gun

BF510 Detail Gun. Easy to use, easy to service. Ideal for painting small areas. Trigger designed for left or right hand use. Excellent for all types of paint material. Use with BF511 Cup Assembly.

Pressure Feed / Touch-up Gun

BF400 Touch-up Spray Gun. For detail and custom painting. Produces round or fan-shaped spray patterns which can be directed horizontally or vertically. Convertible trigger for right or left-hand use. No-drip aluminum paint cup with action lock. Medium .040" paint tip. Operate from compressor or CO2 tank. Operating pressure of 30 PSI for fan spray or up to 80 PSI for special effects.

Specifications

Stock No.	Fluid Tip	Air Consumption	Air Inlet Thread Size	Fluid Inlet	Application
Gravity Feed					
BF814	1.4mm	11.0 CFM @ 50 PSI	1/4" M.P.T.	3/8" M.P.T.	All automotive colors and clears
BF375	1.4mm	15.0 CFM	1/4" M.P.T.	3/8" M.P.T.	Colors, clears and primers
Pressure / Siphon Feed (Deluxe)					
BF590	.070"	11.0 CFM @ 50 PSI	1/4" M.P.T.	3/8" M.P.T.	Medium solids, colors, clears and enamels
BF590P	.045"	15.7 CFM @ 50 PSI	1/4" M.P.T.	3/8" M.P.T.	Pressure feed high-speed production
BF590A97	.055"	13.8 CFM @ 50 PSI	1/4" M.P.T.	3/8" M.P.T.	High solids, colors and clears
Pressure / Siphon Feed (Standard)					
BF501	.070"	11.0 CFM @ 50 PSI	1/4" M.P.T.	3/8" M.P.T.	Medium solids, colors, clears and enamels
Pressure Feed / Detail Gun					
BF510	.055"	4.1 CFM @ 50 PSI	1/4" M.P.T.	1/4" M.P.T.	All automotive colors and clears

Spray Gun Accessories

Pressure Cups and Tanks

BF652 Pressure Cup. 2 Liter capacity. Use with any pressure feed spray gun. Wide mouth for easy cleaning. Cup Pressure Regulator allows for fluid pressure adjustments (0-50 PSI). Use with BF7130 Hose Kit.

BF602 Low-Pressure Cup Assembly. 32 oz. capacity. Features recessed check valve to maintain cup pressure and relief valve to relief cup pressure. Use with BF595SYS30 and BF595SYS45.

BF511 Detail Plastic Cup. 6 oz. capacity. Made of tough, translucent, high-density polyethylene. Use with BF510/BF515 Detail Guns.

BF655 Single Regulation Pressure Tank. 2.5 gallon capacity. Use with most pressure feed spray guns. TEFLON® lined for easy cleanup. Tank Pressure Regulator allows fluid pressure adjustment (0-80 PSI). Use with BF7220 Hose Assembly.

BF656 Dual Regulation Pressure Tank. 2.5 gallon capacity. Use with most pressure feed spray guns. TEFLON® lined for easy cleanup. Tank Pressure Regulator allows fluid pressure adjustment (0-80 PSI). Additional Air Regulator permits atomizing air at the tank. Use with BF7220 Hose Assembly.

BF503 Universal Siphon Cup. 32 oz. capacity. Fits all leading spray guns. Won't drip in any position. 3/8" NPT(f) swivel nut attachment.

See Warranty Information on inside front cover.

Gravity Feed Cups

BF703 Nylon Gravity Feed Cup. 22 oz. (565 cc) capacity. Nylon gravity feed cup. Use with all Snap-on® HVLP Gravity Feed Spray Guns plus BF814 Non-HVLP Gravity Feed Spray Gun

BF750 Aluminum Gravity Feed Cup. 23 oz. (650cc) capacity. Aluminum gravity feed cup. Use with all Snap-on® HVLP Gravity Feed Spray Guns plus BF814 Non-HVLP Gravity Feed Spray Gun

BF755 Aluminum Gravity Feed Cup. 34 oz. (1 Liter) capacity. Aluminum gravity feed cup. Use with all Snap-on® HVLP Gravity Feed Spray Guns plus BF814 Non-HVLP Gravity Feed Spray Gun

BF7505 Miniature Aluminum Gravity Feed Cup. 4 oz. (125 cc) capacity. Miniature aluminum gravity feed cup. Includes adaptor to fit Snap-on HVLP Gravity Feed Spray Guns plus BF814 Non-HVLP Gravity Feed Spray Gun.



WARNING

• Read additional safety precautions on pages M1 to M4.



Paint Spray Spray Gun Accessories



BF521A



BF520A



BF540A



BF525



BF550



BF555

Air Filters / Air Control Units

BF521A Air Control Unit. Includes regulator with 160 PSI inverted gauge and air cock. 2 regulated outlets. 1 filtered main line outlet. Air inlet: 1/2" NPT(f). Filter Capacity: 75 CFM Regulator Capacity: 50 CFM

BF531A Air Control Unit. Includes regulator with 160 PSI inverted gauge and air cock. 2 regulated outlets. 1 filtered main line outlet. Air inlet: 1/2" NPT(f). Filter Capacity: 120 CFM Regulator Capacity: 50 CFM

BF520A Air Filter. REUSABLE edge-type 5-micron filter element. Highly effective at removing water, oil and other contamination. Air Inlet: 1/2" F.P.T. Air Outlets: 3/8" F.P.T. and 1/4" F.P.T.(plugged). Filter Capacity: 75 CFM.

BF530A Air Filter. REUSABLE edge-type 5-micron filter element. Highly effective at removing water, oil and other contamination. Air Inlet: 1/2" F.P.T. Air Outlet: 2 outlets @ 3/8" F.P.T. Filter Capacity: 120 CFM.

BF540A Mechanic's Air Filter. Portable, mounts easily anywhere. Designed for use with quick couplers. Air Inlet: 1/4" F.P.T. Air Outlets: 1/4" F.P.T. and 1/4" F.P.T. (plugged) Filter Capacity: 75 CFM



BF1400



YA999

Fluid Pressure Regulators

BF1400 Air Pressure Regulator. Self-relieving diaphragm. Maximum 100 PSI inlet pressure. 0 to 10 PSI regulated pressure to cup. 0 to 30 PSI air pressure gauge.

BF1410 Air Pressure Regulator. Small, lightweight, true diaphragm mini-regulator attaches to any spray gun (including HVLP models) for accurate air pressure regulation. Push/Pull lock pressure setting. Features easy to read 0-160 PSI gauge. Capacity of 22 CFM (158 SCFM) [623 L/MIN.]

YA999 Air/Water Separator. Separates water from compressed air. Includes drain valve for periodic draining. 3 1/2" long. 1 1/2" in diameter.

AHCC90



AHCCP97



High Volume Hose Connectors

AHCC90 Quick Coupler. High Volume 1/4" Female Quick Coupler. Designed to deliver high volumes of air to spray guns and air tools.

AHCC91 Quick Coupler. High Volume 1/4" Male Quick Coupler. Designed to deliver high volumes of air to spray guns and air tools.

AHCCP90 Female High Volume Hose Nipple. Quick Connect 1/4" Female Nipple. Designed to deliver high volumes of air to spray guns and air tools.

AHCCP97 Male High Volume Hose Nipple. Use with AHCC98 High Flow Coupler to improve low pressure performance of 1/2" drive impact wrenches and other high air consumption air tools.

Electronic Paint Thickness Gauge

BFGAUGE1KT Electronic Paint Thickness Gauge. Gauge uses microprocessors to measure coatings on metal substrates. The circuitry measures to 0.00001 inch (0.000254mm) and automatically rounds off to 0.0001 inch (0.00254mm) for a stable digital display in either microns or mils. Unit is more resistant to residual magnetism generated by arc or spot-welding than units using Hall sensors. Features include remote probe with cable, stores up to 20 readings, high/low tolerance limits plus circuitry uses only high grade 1% resistors. Kit includes, calibration plate, instruction manual, foam insert and plastic storage case.



BFGAUGE1KT

Specifications	BFGAUGE1KT
Range	0 to 40 mils (0 to 999 microns)
Accuracy	±1% (±0.1 mil)
Battery	9V alkaline (included)

Air Valves / Air Regulators

BF525 Heavy-Duty Air Pressure Regulator. 2 regulated outlets. Includes 160 PSI air gauge and air cock (1/4" M.P.T.). Capacity: 50 CFM.

BF555 Air Adjusting Valve (with Gauge). Designed for use with HVLP spray guns. Includes 160 PSI pressure gauge. Air Inlet: 1/4" M.P.T. Air Outlet: 1/4" F.P.T. (Swivel Nut)

BF550 Air Adjusting Valve. Precision tapered valve. Full open to close with approximately 4 turns. Infinitely adjustable. Large, easy to handle knob. Air Inlet: 1/4" M.P.T. Air Outlet: 1/4" F.P.T. (Swivel Nut)

BF1210 "Green Zone" Air Regulator. "Green zone" air regulator. Reads both inlet pressure and air cap pressure.

BF7000 Disposable In-Line Filter. Disposable filter removes contaminants such as moisture and water that condenses in the air hose between wall mounted filter and spray gun. Reduces paint defects. Easy installation. Card of (2) filters.



BF7130

Air / Fluid Hoses

BF7220 Fluid Hose. 25 ft. x 3/8" I.D. Fluid Hose with 3/8" F.P.T. connectors.

BF7130 Air/Fluid Hose. 6 ft. Hose Kit for the BF652 Pressure Cup. Kit includes 5/16" I.D. Air Hose with 1/4" F.P.T. connectors and 1/4" I.D. Fluid Hose with 3/8" F.P.T. connectors.

BF7230 Air Hose. 35 ft. x 3/8" I.D. Air Hose Assembly with High Volume Quick Connectors and Nipples.



MRB20

Paint Gun Hooks / Holders

MRB20 Magnetic Paint Gun Hook. MRB20 Magnetic Paint Gun Hook. Eliminates having to drill holes in your paint booth to hang your paint gun. 160 lbs. of magnetic force.

BF9893 Gravity Feed Spray Gun Holder. Stand holds up to three gravity feed paint spray guns at one time for refilling. Adjustable strainer holder. Steel construction.

Air Brushing

Air Brush Sets

BF360 Air Brush Set. Patented rotating paint reservoir allows gravity or bottom feed. Engineered to require only one size tip, regulator and needle for application of any properly reduced medium including acrylics, gouache, inks, dyes, enamels, lacquers and stains. Set includes air brush, (2) 2 oz. jars, (1) 3/4 oz. jar, 6' braided hose, extra needle and tip plus foam lined plastic storage case.

BF175TA Air Brush Set (Internal Mix/Bottom Feed Airbrush). Dual action, internal mix, bottom feed airbrush. Choice of fine, medium or heavy needle/heads. Large, comfortable airbrush for production and custom painters. Sprays a wide range of properly reduced acrylics, enamels, lacquers, glazes and airbrush ready paints. Set includes air brush, mixing jars, air hose, color cup, air brush hanger, extra tip, spray regulator, needle, plastic storage case and instruction manual.

BF170A Air Brush Set (Internal Mix/Dual Action Airbrush). Dual action, internal mix, bottom feed airbrush. Single needle/nozzle design sprays a variety of reduced acrylics, enamels, lacquers, glazes and airbrush ready paints. Easy to maintain and clean. Excellent choice for multiple applications. Ideal for novice as well as advanced airbrushers. Set includes air brush, mixing jars, air hose, color cup, air brush hanger, extra needle and instruction manual.

BF171 Air Brush Set (External Mix/Single Action Airbrush). Single action, external mix, bottom feed airbrush. Air and paint mix outside the airbrush, creating a larger, coarser dot pattern while providing a heavier spray volume. An excellent choice for base coating, touch-up projects and automotive painters. Sprays higher viscosity materials like glazes, stains, enamels and lacquers. Set includes airbrush, mixing jars, air hose and instructions.

BF175TA



BF360



BF170A



Air Brush Paints

Designed for use with air brushes. Ideal for air brush work on autos, trucks and motorcycles. Primary colors are mixable to almost any color. Water-based, acrylic paint film is odorless. Paint conforms to ASTM D4236.

BFPAINTRBK Black. 4 fl.oz.

BFPAINTR Red. 4 fl.oz.

BFPAINTRBL Blue. 4 fl.oz.

BFPAINTRW White. 4 fl.oz.

BFPAINTRG Green. 4 fl.oz.

BFPAINTRYW Yellow. 4 fl.oz.

BFPAINTR6 Set. Includes BFPAINTRBK, BFPAINTRBL, BFPAINTRG, BFPAINTR, BFPAINTRW and BFPAINTRYW.

Air Compressor

BF180 Compressor. Portable 1/12 HP oil-less diaphragm-type compressor features internal bleed. Compact, lightweight and quiet. Maximum running pressure of 33 PSI. 115 volts, 60 Hz., 2.5 amp.

BF180



Paint Gun Cleaners / Safety Equipment

YA7327



BFCB101



Paint Gun Cleaning Brushes

YA7327 Paint Gun Cleaning Brush (Set of 5). For "external" paint guns. Can be used with all commonly used cleaning solvents (don't use with solvents marked "corrosive"). Nylon bristles. 7 1/2" long.

YA7329 Paint Gun Cleaning Brush (Set of 5). Similar to YA7327 but designed for "fluid tip" paint guns. 7 3/4" long.

BFCB101 Paint Gun Cleaning Brush Kit. General purpose spray gun cleaning kit. Includes seven-piece stainless steel needle set with handle, five-piece precision mini-twisted brush set, 3/8" pick-up tube brush (12" long), 3/16" nylon end brush, 1/2" nylon body cavity brush, nylon bristle exterior body brush and 1/4" nylon HVLP brush.

Flammables Storage Cabinet

EQY1780. Store volatile liquids like paints, solvents, alcohol, acetone, gasoline, and other chemicals. 16-gauge walls with full 2" air walls. 45 gallon capacity with 5 gallon spill pan. Removable fork lift channels for convenient movement and placement of cabinet. Complies with OSHA #29 CFR 1910, NFPA Code #30, and UFC Code #79. Spill containment exceeds 5 gallon EPA requirement. FM approval pending.

EQY1780



Specifications EQY1780

Outside Height	65"	Inside Height	60"
Outside Width	43"	Inside Width	40"
Outside Depth	18"	Inside Depth	15"

Cabinet-Style Paint Gun Cleaner

PGC500A Paint Gun Cleaner. Cleans paint guns in less than two minutes. Meets SCAQMD air quality rule 1171. Air safety switch on lid. Features a high torque rotary vane air motor that requires only 7 CFM at 60 PSI. Regulator and gauge are included. Seal-less magnetic drive pump supplies powerful cleaning action—no seals to wear out or replace. Sprays solvent at 85 PSI. Reduces solvent consumption up to 90%. Measures 30" high, 26" long, and 24" wide in the top.

PGC500A



PB1000

Benchtop Paint Spray Booth

PB1000 Spray Paint Benchtop Booth. Use for air brush or small parts painting. No need to start large booth for small jobs. Safely use aerosol paint and comply with OSHA requirements. Carbon filter absorbs VOC paint emissions while capturing overspray. For continuous use or in the presence of harmful chemicals, the paint booth can be vented outside with a 3" vent pipe. 18-gauge steel construction for greater durability.

Specifications	PB1000
Width, inches (mm)	30 (762)
Height, inches (mm)	24 (609.6)
Depth, inches (mm)	24 (609.6)
Motor	1/12 HP, 120VAC, 60 Hz



WARNING

- Do not direct air or fluid stream at body.
- Use in well ventilated area.
- Do not expose cabinet or stored substances to flame, spark, or other sources of ignition.
- Read additional safety precautions on pages M1 to M4.



Abrasive Blast Systems

Top Opening Models

Provide easy operator access for lighter parts. Applications include cleaning smaller dies, engine components, and lower volume production parts.

YA4224 Abrasive Blast Cabinet. Heavy duty design with rugged blast gun and foot valve control. Foot pedal for blast gun operation relieves fatigue. 280 CFM dust collection system. Convenient side opening for smaller pieces.

YA3824 Abrasive Blast Cabinet. Easy access side door with oversize window allows viewing of entire cabinet interior. Large top opening provides convenient loading of large or heavy objects. 135 CFM dust collection system. Perforated hopper screen filters debris. Fluorescent lighting.

YA3624 Pressure Feed Abrasive Blast Cabinet. Up to 75% faster than siphon-style blast cabinets. Abrasive is manually loaded into 100 lb. capacity ASME side mount steel pressure tank and forced at high velocity through hose and nozzle. Can use all types of dry blast abrasives including steel shot. Automatically recycles cleaning media and collects and deposits dust into heavy duty filter bags. Includes 15 SCFM 1/8" ceramic nozzle, 24" working gloves, fluorescent lights and foot pedal.

YA3625A Abrasive Blast Cabinet. Easy access side door. Oversize window allows viewing of entire cabinet interior. Large top opening provides convenient loading of large or heavy objects. 135 CFM dust collection system. Perforated hopper screen filters debris. Fluorescent lighting. 6" bracing between front and back legs for greater stability. 14-gauge steel construction. Durable powder coat paint. Red.

YA434D Abrasive Blast Cabinet. Legs are welded directly to cabinet to provide greater stability and strength. Compact 38" x 24" footprint. Powerful 135 CFM fan-cooled dust collector for greater efficiency. Large view window measures 24" x 9". Powder coat paint helps protect against corrosion. Includes interior fluorescent lighting, high power blast gun, 24" rubber blast gloves and 25 lbs. of glass bead abrasive.

YA435 Abrasive Blast Cabinet. 270 CFM dust collection system. Safety shutoff turns air off when main cabinet door is open. Optional tumble basket available.

YA433 Abrasive Blast Cabinet. Bench-top model takes up only 2 square feet of bench space. 100 CFM dust collection system.



Stock No.	Inside Dimensions, in.	Side Door Dimensions, in.	Top Opening Dimensions, in.	Overall Dimensions, in.	Air Supply Required *	Electrical Requirements
Top Opening Models:						
YA4224	29H x 41W x 23D	17 H x 18 W	12 H x 39 1/2 W	73H x 43W x 24D	17 or 40 CFM at 100 PSI	120VAC, 60Hz, Single Phase
YA3824	15 to 19H x 37W x 23 1/2D	18H x 18W	36 x 11	61H x 41W x 24D	10 CFM or 18 CFM at 100 PSI	120 VAC, 60 Hz., Single Phase
YA3624	14 to 23H x 35W x 24D	13H x 19W	34 x 24	60H x 45W x 25D	21 CFM at 100 PSI	120 VAC, 60 Hz., Single Phase
YA435	15 to 23H x 40W x 26D	13H x 17W	39 x 24	66H x 40W x 27D	10 CFM or 18 CFM at 100 PSI	120 VAC, 60 Hz., Single Phase
YA433	15H x 18 1/2W x 14 1/2D	—	17 1/2 x 13	24H x 21W x 15D	10 CFM or 18 CFM at 100 PSI	120 VAC, 60 Hz., Single Phase
YA3625A	15 to 24H x 37 1/2W x 23 1/2D	18H x 18W	36 x 11	67H x 41W x 25D	6 CFM or 18 CFM at 100 PSI	120 VAC, 60 Hz., Single Phase
YA434D	15 to 32H x 36W x 24D	—	36W x 16D	65H x 38W x 24D	15 CFM at 100 PSI	120 VAC, 60 Hz., Single Phase
Side Opening Model:						
YA437	33H x 42 1/2W x 44D	35H x 42W	—	78H x 44W x 44D	10 or 18 CFM at 100 PSI	120 VAC, 60 Hz., Single Phase

* (depending on gun nozzle/air jet assembly)

YA437



Side Opening Model

Designed for large items and production volume cleaning. Ideal for molds and dies or will accommodate large volumes of production parts for cleaning and deburring.

YA437 Abrasive Blast Cabinet. Working area of 35 cubic feet. Handles parts weighing up to 800 lb. 470 CFM dust collection system. Safety shutoff turns air off when doors are open.

Portable Pressure Blast System

Air-Powered Portable Pressure Blast Systems

YA441 250 lb. Pressure Blast System. For large, on-site cleanups such as concrete, stone, and steel, plus many other applications. Remote control feature lets operator shut down system without returning to the tank. 250 lb. sand capacity. Includes 1/4" nozzle plus 25' reinforced sandblast hose for reaching all parts of big jobs. Requires 80 CFM at 100 PSI.

YA439 100 lb. Pressure Blast System. Smaller "cousin" to the YA441; has most of the same fine features except abrasive capacity is less and sandblast hose is 10' long. Includes 1/8" nozzle. Requires 21 CFM at 100 PSI.

YA449A 100 lb. Portable Pressure Blast System. Similar to YA439 except remote control feature is replaced by a solid carbon steel ball valve at the end of the sandblast hose. 100 lb. sand capacity. Includes 1/8" nozzle. Sandblast hose is 10' long. Requires 21 CFM at 100 PSI.

YA448 40 lb. Pressure Blaster. Blasting action is controlled by a carbon steel ball valve at the operator end of sandblast hose for quick starts and stops. Equipped with 8' of sandblast hose and a pressure vessel with a 40 lb. sand capacity set on tripod legs for stability. Includes 1/8" nozzle. Requires 21CFM at 100 PSI.

Abrasive Blast Systems

YA441



YA448



YA432



Gravity-Fed Portable Pressure Blast System

YA432 Gravity-Fed Sandblast System. Its portability makes it very practical for maintenance crews and spot cleanups. Also good for automotive engine and body work. Will even double as a power sprayer for many commercial cleaners. Requires 10 or 18 CFM at 100 PSI.

Sandblasters

Vacuum Sandblaster

YA428A Vacuum Sandblaster. Blast away rust, dirt, and old paint indoors as effectively as with a blast cabinet. All action takes place within the blast head to help eliminate dust. The blast head is simply pressed against the part needing cleaning, the trigger is squeezed, and the sandblaster "explodes" away debris, immediately vacuuming it into the dust hopper. For mobility, the YA428A includes a rugged, tubular steel cart with 8" semi-pneumatic wheels and dual casters in front. Blower has 90 CFM output. Measures 49" x 18" x 18 1/2". Requires 14 CFM at 100 PSI. Requires 120VAC.

Sandblasters

PSB500AR Sandblasting Gun. Portable, hand-held capability for small scale abrasive sanding jobs. Lightweight aluminum construction designed with a flat base to provide an upright resting position. Underslung 4 lb. capacity sand holder improves balance and user comfort. Requires 5 or 12 CFM at 100 PSI. Red.

PSB100R Speed Blaster. Red. Cushioned pistol grip. Compact, 1L, shatter-proof tank provides a self-contained sand supply. Gravity fed for uninterrupted, consistent sand flow. Adjustable material flow valve. Operating pressure is 60 to 125 PSI. Working pressure is 200 to 125 PSI. Maximum air consumption is 12 CFM at 125 PSI. Has a 1/4" NPT fitting. 24 oz. container size.

PSB200 Spot Blast Recovery System. Converts PSB100 Series Speed Blasters into spot blasters with recovery systems in just seconds. The PSB200 captures blast media in a fast and efficient manner and saves cleanup time.

PSB500AR



YA428A

PSB100R



PSB200



Sandblasting Accessories

Abrasives

YAD4000 Steel Grit Abrasive. Use for rough cleaning and for removing rust and scale. 50 lb. bucket.

YAD4003 Steel Shot Abrasive. Use for peening and cleaning castings and forgings. 50 lb. bucket.

YA428-1 G-Garnet Abrasive. Does not break down as quickly as silica sand. Creates less dust. 40 lb. bucket.

YA461 Coarse Glass Bead Abrasive. Use for coarse satin finish with minimum surface removal. 40-60 coarse grit, 50 lb. bucket.

YA462 Medium Glass Bead Abrasive. Use for medium satin finish with minimum surface removal. 60-100 medium grit, 50 lb. bucket.

YA463 Fine Glass Bead Abrasive. Use for fine satin finish with minimum surface removal. 100-200 fine grit, 50 lb. bucket.

YA466 Aluminum Oxide Abrasive. A tough abrasive used for fast removal of heavy oxidation and burrs. Low dust and good recycling. 50 lb. bucket.

YAD4003

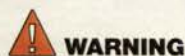


YA414



Hood

YA414 Cotton Twill Hood with Bump Cap. Bump Cap protects head, face, and neck from dust. Light-duty protector for well-ventilated areas.



WARNING

- Do not direct air or fluid stream at body.
- Use in well ventilated area.
- Do not expose solvent to flames, sparks, or other sources of ignition.
- Read additional safety precautions on pages M1 to M4.



Parts Washers Aqueous Based



PBC42A

Electric / Medium Duty

PBC42A Aqueous Electric Parts Washer. Uses heated biodegradable soap solution to clean. 400 PSI piston pump blasts away dirt and grime. Soaking cycle to pre-clean with 0-60 minute timer. 12 gallon reservoir with baffles to separate solids before recycling. All cleaning takes place inside sealed compartment. Cleaning solution is continuously recirculated. Includes YADW896 Cleaning Compound (25 lb. pail).

PBC33 Heated Aqueous Parts Washer. Composite construction will not rust. Work area is double wall polyethylene. Uses biodegradable heated soap solution to clean. 1500 watt heater, 300 GPH pump, industrial work light and four gallons of cleaning solution are included. Integral skimmer removes oil and grease. Drain filter removes solids. Continuously recycles cleaning solution.

Specifications	PBC42A*	PBC33
Power Source	Electric	Electrical
Style	Cabinet	Tank
Reservoir Capacity, gal.	12	35
Electrical Requirements	240VAC, 60 Hz	120VAC, 60HZ
Pump Motor, hp	3/4	3/4
Output Pressure, PSI	400	350
Volume, gal. per hour	180	300
Heater, watts	1500	1500 Watt
Open Height, inches	67	65
Inside Dimensions, inches (H x W x D)	16 to 26 x 40 x 24 *	10 x 21 x 31 1/2
Overall Dimensions, inches (H x W x D)	62 x 46 x 27	42 x 37 x 28

*Lip Slopes



PBC33

Electric / Heavy Duty

PBC57A Automatic Electric Aqueous Parts Washer. Clean engine blocks, cylinder heads, transmission cases or smaller parts automatically. Features integral oil skimmer. 0-60 minute timer can be set for automatic cleaning. Turntable pulls out 24" for easy loading. Twenty spray nozzles for complete cleaning of parts as they rotate on turntable. Includes YADW896 Soap (25 lb. plastic pail).

Specifications	PBC57A
Power Source	Electrical
Style	Cabinet-Automatic
Reservoir Capacity, gal.	60
Electrical Requirements	220VAC, 1-Phase, 50/60 Hz (60 amp circuit breaker needed)
Heater, watts	9,000
Pump Motor, hp	3 H.P., sealless
Output Pressure, PSI	55 GPM @ 55 PSI
Filter Area, sq. in.	200
Timer	Up to 60 minutes
Turntable Capacity, lb.	1,000
Turntable Diameter, inches	30
Turntable Speed, RPM	3
Inside Dimensions, inches	41H x 35W x 35D
Overall Dimensions, inches	69H x 53W x 43D

PBC57A



Parts Washers

Ultrasonic Cleaning System

Designed for large items and production volume cleaning. Ideal for molds and dies or will accommodate large volumes of production parts for cleaning and deburring. Quickly clean parts with a safe biodegradable solution. Use for transmission rebuilding (valve bodies and small parts), engine rebuilding (pistons, valves, rods) and diesel rebuilding (fuel injectors). Ultrasonic action lifts off soil, even in blind holes, and removes dirt from intricate parts that cannot be safely cleaned with a spray washers or manual parts cleaner. The weir system continuously cleans the solution to remove oil. A 3 gallon per minute pump and filter remove particulates. A 1000 watt element heats the solution to enhance the cleaning power of the liquid cleaning media. Meets SCAQMD Rule 1171 requirements. The weir allows floating oil to flow into a separate compartment of the cleaning tank and keeps the active portion of the cleaning tank free of oil and other petroleum contaminants.

PBCU1826



Specifications	PBCU1826
Control Panel	Separate switches for ultrasonic generator, heater and pump
Overall Dimensions, inches (mm) (L x W x H)	38 (965.2) x 22 (558.8) x 37 (939.8)
Inside Tank Dimensions, inches (mm) (L x W x D)	26 (660.4) x 18 (457.2) x 16 (406.4)
Ultrasonic Generator	1000 watts, 40KHz (includes RFI filter, 300 Hz sweep circuitry, 1000 watts average, 2000 watts peak)
Ultrasonic Transducer	12 (bonded to stainless steel)
Construction	304 stainless steel
Casters	5" heavy duty
Electrical Requirements	120VAC, 50/60 Hz, single phase, 6 amps

Solvent Based

Electric / Square Base

Specifications	PBC32	PBC4814
Style	Square Base	Square Base
Electrical Requirements	120VAC, 60 Hz	120VAC, 60 Hz
Reservoir Capacity, gal.	30	30
Output Pressure, PSI	50	50
Volume, gal per hour	300	300
Open Height, inches	63	75
Inside Dimensions, inches	10H x 32W x 22D	14H x 48W x 28D
Overall Dimensions, inches	39H x 36W x 26D	45H x 52W x 32D

PBC32



PBC4814



Air / Square Base

Specifications	PBC4814
Style	Square Base
Air Supply Required	22 CFM @ 100 PSI
Reservoir Capacity, gal.	30
Output Pressure, PSI	50
Volume, gal per hour	200
Open Height, inches	75
Inside Dimensions, inches	14H x 48W x 28D
Overall Dimensions, inches	45H x 52W x 32D

Electric / Drum Mounted

Units feature unique "self-service" two-part filtration system. Mud bucket is located inside the drum, directly beneath the drain. It separates solids and particulates (down to five microns) from the pump. The pump then recirculates the particulate-free solvent up to the Sink Side filter element for final cleaning and absorption of oil and grease. Solvent is also routed through this filter when not washing parts. On-going filtration provides continuously clean solvent. Helps minimize waste and reduces required EPA paperwork. Disposable filters are easily replaceable.

PBD3222 Auto-Filtration Parts Washer, 30 gallon. Unit features unique "self-service" two-part filtration system. Mud bucket is located inside the drum, directly beneath the drain. It separates solids and particulates (down to five microns) from the pump. The pump then recirculates the particulate-free solvent up to the Sink Side filter element for final cleaning and absorption of oil and grease. Solvent is also routed through this filter when not washing parts. On-going filtration provides continuously clean solvent. Helps minimize waste and reduces required EPA paperwork. Disposable filters are easily replaceable.

PBD32222 Automatic Filtration Retrofit Kit. Retrofit Kit for converting 30-gallon drum mounted parts washers to "self-service" filtration system. Includes Sink Side filter bracket, two single stage 18" clay filter elements for on-going grease and oil absorption and "Mud Bucket" for removing dirt, sludge and other particulate matter from solvent. Includes 16 gallon drum for storage of waste filtration elements. Drum is U.N. approved for storage, transportation, and disposal by the D.O.T. and EPA.

PBD3222



PBD32221 Automatic Filtration Retrofit Kit.

Same as PBD3222 except fits 16-gallon drums and uses a single 11" clay filter element.

PBD2622 Auto-Filtration Parts Washer.

Same as PBD3222 except has 16-gallon capacity.

Electric / Drum Mounted

Specification	PBD3222	PBD2622
Style	Drum Mounted	Drum Mounted
Electrical Requirements	120VAC, 60 Hz	120VAC, 60 Hz
Reservoir Capacity, gal.	30	16
Output Pressure, PSI	50	50
Volume, gal per hour	300	180
Open Height, inches	63	53
Inside Dimensions, inches	10H x 32W x 22D	7H x 26W x 17D
Overall Dimensions, inches	39H x 36W x 26D	33H x 30W x 21D

Portable Parts Washers

Air Agitated Immersion Cleaner

PBD16 Air Agitated Immersion Cleaner. 16 gallon capacity. Use with parts degreaser or carburetor cleaner. Heavy-duty air motor rotates basket in both directions. Cover has locking band that seals unit. 4 1/2" deep basket has hook for draining parts from top of pail and holes for holding extra-small parts. Overall height of 32". Base diameter of 14 1/2". Requires 5 CFM @ 100 PSI.

PBD16



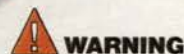
PBC16



Bench Top Recirculating Parts Washer

PBC16 Electric Bench Top Parts Washer. 5 gallon capacity. 120VAC, 60 Hz, 6 amp current; 200 gal/hour capacity.

Self-latching 165° fusible-link fireproof cover. Reliable, abrasion-resistant vertical pump. Inside dimensions of 6"H x 15"W x 16"D. Overall dimensions of 10"H x 17"W x 23"D.



WARNING

- Do not direct air or fluid stream at body.
- Use in well-ventilated area.
- Do not expose solvent to flames, sparks, or other sources of ignition.
- Do not use washer without fusible link or safety valve intact.
- Read additional safety precautions on pages M1 to M4.



Parts Washers

Cleaning Solutions for Aqueous Based Parts Washers

PBA729 Biodegradable Solvent. Clear green liquid detergent. Low foaming. Best results when heated. For use in PBC33 and similar Parts Washers. Four gallon plastic pail.

YADW896 Alkaline Powder Soap. Powder alkaline cleaner for use in PBC42A, PBC360 and PBC57 Parts Washers. Low foaming and safe for use on aluminum, brass, and steel. 25 lbs. plastic pail.

General Parts Washer Accessories

PBA725 Parts Basket. Hangs inside of PBD2622, PBC32, or PBD3222 Parts Washers to quickly clean small metal parts.

Parts Cleaning

Hose Reels/Water Nozzles

YA730C Heavy-Duty Air/Water Hose Reel. Includes 50' (1500cm) of 3/8" (9.5mm) ID low-pressure hose (maximum hose capacity is 60'), adjustable ball stop, and 24" (60cm) connecting hose. Features safety-banded, high-carbon steel retraction spring. Guide arm adjusts to any of four positions.

YA729B Air/Water Hose Reel. Includes 30' of 3/8" ID low-pressure hose, adjustable ball stop, and 12" connecting hose. Reel is metal construction. Maximum pressure is 300 PSI. Maximum water temperature is 200°F (93.3°C). Made in USA.

YA1729 Air Hose Reel (hose not included). Spring tension brake controls reel rotation. A 1/4" NPT brass swivel allows free flow of air. Attaches easily to the wall or work surface of your choice.

YA571 Water Spray Nozzle. Sprays hot or cold water. Clip locks spray at desired setting. Nose bumper prevents scratches to auto paint. Fits standard garden hose threads.

YA297 Water Saving Hose Nozzle. Provides concentrated pressure stream. Slight pressure on nozzle begins spray. Release pressure to stop. Features special rocker-actuated check valve. Fits standard garden hose threads. 9' long.

GA299 Air-Solvent Gun. Used for degreasing or applying oils. Quickly converts to long wand air gun. Operates on 35 to 175 PSI. 8' hose for siphoning chemicals into gun. For hoses with 1/4" NPT male fitting. Shaft length of 10 1/2"; overall length of 16 1/2".

PBA729



PBA760



Cleaning Solutions for Solvent Based Parts Washers

PBA760 Solvent. Petroleum solvent with 140° flash point. Excellent for removing oil, grease and soils. Can be used with all solvent-based Parts Washers listed in catalog. Five-gallon metal pail.



PBA725



YA730C



YA1729

Specifications	YA1729
Air Supply Required	28 CFM at 90 PSI
Diameter, inches	17 3/4
Height, inches	19
Reel Capacity, Feet (3/4" OD Hose)	100
Reel Capacity, Feet (5/8" OD Hose)	150
Width, inches	11

YA571



YA297



GA299



GA501



GA503



GAP501



Parts Cleaning Brushes/Solvent Based

YA452 Parts Cleaning Brush. Stiff bristles with a contoured, nonslip, plastic handle. Attaches to most parts washers. Flared end of hose fits 1/4" spouts. 24" long hose has internal spring to prevent kinking. 35 1/4" overall length.

GA501 Parts Cleaning Brush. Similar to YA452 minus the hose. 11 1/4" long.

GA503 Parts Cleaning Brush. Angled round brush design. For solvent-based parts washers.

Specialty Brushes

AC41B Taillight Socket Brush. Stiff carbon steel wire bristles. Diameter is .642". 6 5/8" long.

AC5A Stainless Steel Scratch Brush. Stainless wire bristles for use where corrosive materials are found. 7 7/8" long.

AC58C Wire Brush. Larger version of AC5A. 13 3/4" long.

AC59A Stainless Steel Wire Brush. Same design as AC58C except its bristles are stainless steel for use where corrosive materials are found.

AC64 Shoe Handle Scratch Brush. Carbon steel bristles. 10" x 1 1/16". 5" long.

YA385A Electrical Connector Cleaning Brushes Set. Remove corrosion and oxidation with this set of five brushes. Includes: YA385-1, YA385-2, YA385-3, YA385-4 and YA385-5.

YA385A-1 Bullet Brush

YA385A-3 Lamp Socket Brush

YA385A-5 General Purpose Brush

YA385A-2 Fuse Brush

YA385A-4 Lamp Socket Brush

Parts Cleaning Brushes/Water Based

GAP501 Parts Cleaning Brush. Straight, round brush design. For use with PBC33 and other water-based parts washers.

GAP502 Parts Cleaning Brush. Straight, round brush design with "multi-jet" flow thru. For use with PBC33 and other water-based parts washers.

AC41B



AC5A



AC64



YA385A



Non-Heating Pressure Washers

Pressure Washers

Hand Carry / Electric Power

Cold water pressure washer. Electric powered. Includes 26' hose, trigger gun, chemical injector and adjustable pressure.

Stock No.	Horsepower	Maximum Flow, GPM	Maximum Inlet Water Temperature	Maximum Pressure, PSI	Thermal Release	Volts/ Amps
SEPW1500P	2	2.1	145° F	1450	NO	120VAC / 20A



SEPW1000



Cart Mounted / Electric Power

Electric powered. Includes 40' hose, trigger gun, chemical injector, and adjustable pressure.

Stock No.	Horsepower	Maximum Flow, GPM	Maximum Inlet Water Temperature	Maximum Pressure, PSI	Thermal Release	Volts/ Amps
SEPW1000	1.5	2	140° F	1000	Mechanical	120VAC/13.8A
SEPW1400	2	2.1	145° F	1450	Mechanical	120VAC/20A
SEPW1501	3	3	190° F	1500	Mechanical	240VAC/17A

Cart Mounted / Gas Engine

Includes 40' hose, trigger gun, chemical injector and adjustable pressure.

Stock No.	Horsepower	Maximum Flow, GPM	Maximum Inlet Water Temperature	Maximum Pressure, PSI	Thermal Release	Volts/ Amps
SEPW1600G	5.0 Honda	3.5	145° F	1600	Mechanical	Gas engine
SEPW2500G	6.5 Honda	3	160° F	2500	Mechanical	Gas Engine



SEPW2500G

Heating Pressure Washers

SEPW14SHDE



Cart Mounted / Oil Fired / Electric Power

Electric powered. Includes 40' hose, trigger gun, chemical injector and adjustable pressure.

Stock No.	Horsepower	Maximum Flow, GPM	Maximum Inlet Water Temperature	Maximum Pressure, PSI	Thermal Release	Volts/ Amps	Water Heater Fuel Type
SEPW14SHDE	2	2	145° F	1450	Mechanical	120VAC/20A	Fuel Oil, Kerosene, or #1 Diesel Fuel
SEPW30SHDE	7.5	4	145° F	3000	Mechanical	240VAC/34A	Fuel Oil, Kerosene, or #1 Diesel Fuel

Pressure Washer Accessories

Stock No.	Description	Models Where Used	Specifications/Applications
SEPW508115	Rotating Brush	All SEPW Models	7" diameter. Rated for use up to 4000 PSI.
SEPW527650	40' Cold Water Hose Kit	Use with non-SHDE Models only	Feature twist fast adaptors. Rated for use up to 3000 PSI.



SEPW508115

WARNING

- Do not direct air or fluid stream at body.
- Use in well-ventilated area.
- Do not expose solvent to flames, sparks, or other sources of ignition.
- Do not use washer without fusible link or safety valve intact.
- Read additional safety precautions on pages M1 to M4.

Work Benches



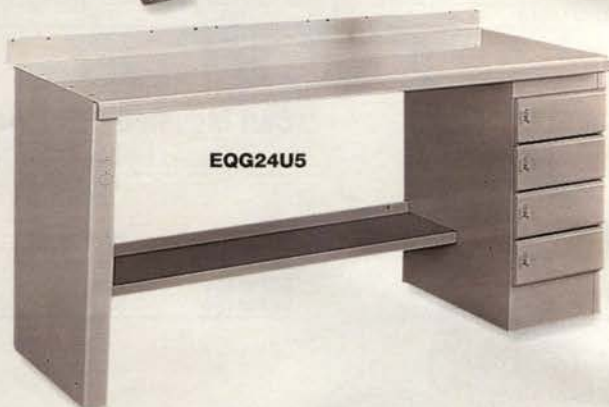
YA2170A



YA2175



EQG2223K5



EQG24U5

Work Benches

Snap-on offers a wide variety of metal work benches, work-stations, modular cabinets, shelving, counters, bins, tool stands, and stock trucks—even prefabricated mezzanines.

YA2170A Collapsible Porta-Bench. Sturdy 1 1/8" galvanized tubular steel frame supports up to 500 lb. 3/8" thick foam padding provides protection for work materials. Height is adjustable from 33" to 43"; width from 15" to 34". Collapsible design allows for easy, compact storage. Grey powder coating improves protection against corrosion.

YA2175 Folding Heavy Duty Work Table. 750 lbs. total capacity. Reversible top rails allow for multiple applications. Rail position can be changed in about 20 seconds. 3/8" (9.5mm) thick foam padding helps prevent scratches. Large adjustment knobs allow for quick positioning of suction cups at desired angle. Grey powder coating improves protection against corrosion. Constructed from 16 gauge, 1" (25.4mm) square mechanical grade steel tubing for strength and durability. Adjustable height of 30 3/4" to 43 1/2" (781 to 1104mm). Adjustable width of 15" to 35" (381 to 889mm). Depth of 34" (863.6mm). Folds flat for storage.

YA2175 Portable Welding Table. Welding bench features scissoring leg action for quick and easy setup and tear down in seconds. 1,000 lb. (453.6 kg) load capacity. Welding holster and grounding post for added convenience. Adjustable leg for easy leveling. Grey powder coating improves protection against corrosion. Folds flat for compact storage. 24" x 48" (609.6 x 1219.2mm) metal grid table top.

EQG2223K5 Open Leg Work Bench. Constructed from heavy 12 gauge steel with die formed legs welded into a one-piece unit for superior strength. Includes a storage drawer for mounting on an end or at the center of the bench. 5' W x 29" D x 33 1/2" H.

EQG24U5 Pedestal Work Bench. Manufactured with a heavy 12 gauge top surface and an integral back flange. Four drawer pedestal is designed with roller drawer rails for smooth, non-binding operation. 5' W x 27 1/2" D x 34 1/8" H.

Grinding Bench Grinders

Bench Grinders

UL Listed, Canadian Version CSA Listed.

Specifications	BG1000G	BG500G	BG333G
Arbor Size, inches	3/4	5/8	1/2
Base Size, inches	8 1/2 x 8 1/2	8 1/2 x 6	8 1/2 x 6
Eyeshields	Lighted, Heavy-Duty	Lighted, Heavy-Duty	Standard
Hertz	60	60/50	60/50
Motor Rating, hp	1	1/2	1/3
Motor Start	Capacitor Start	Capacitor Start	Capacitor Start
No Load RPM			
@ 50 Hz	1,425	2,850	2,850
@ 60 Hz	1,725	3,450	3,450
Overall Height, inches	13 1/2	9 3/4	9 1/2
Overall Length, inches	23	19	17
Phase	1	1	1
Shipping Weight, lbs.	97	46	29
Voltage	220 VAC	120/240VAC	120/240VAC
Water Pot	Yes	Yes	Yes
Wheel Diameter, inches	10	7	6
Wheel Face, inches	1	1	3/4
Wheel Grit	36 and 60	36 and 60	36 and 60



BG1000G

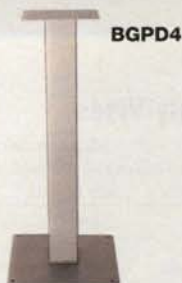


BG500G

Grinder Accessories



WD12



BGP4

Grinder Accessories

WD12 Grinding Wheel Dresser. Removes glaze and trues up wheel. New cutters can be easily inserted. Hood protects cutter.

BGP4 Bench Grinder Pedestal. Designed for BG333G and BG500G Bench Grinders.

BGP10 Bench Grinder Pedestal. Similar to BGP4 except it is designed for BG1000G Bench Grinder.

Straight Sided Grinding Wheels

Straight Sided. Bushings are included.

Stock No.	Bushing Sizes, inches	Arbor inches	Grit	Diameter, inches	Width, inches	Maximum RPM Rating
WC62436A	1/2, 5/8, 3/4	1	36	6	3/4	3,600
WC62460A	1/2, 5/8, 3/4	1	60	6	3/4	3,600
WC63236A	1/2, 5/8, 3/4	1	36	6	1	3,600
WC63260A	1/2, 5/8, 3/4	1	60	6	1	3,600
WC73236A	1/2, 5/8, 3/4	1	36	7	1	3,600
WC73260A	1/2, 5/8, 3/4	1	60	7	1	3,600
WC83236A	1/2, 5/8, 3/4	1	36	8	1	3,600
WC83260A	1/2, 5/8, 3/4	1	60	8	1	3,600
WC103236A	1/2, 5/8, 3/4, 7/8	1	36	10	1	2,000
WC103260A	1/2, 5/8, 3/4, 7/8	1	60	10	1	2,000

WC63260AR Recessed Grinding Wheel. Recessed version of WC63260A above.

Grinding Discs and Wheels

WC63260AR

WC62436A



RDH7247A



Reinforced Grinding Discs

Reinforced. Discs are made of several layers of synthetic material and grit bound together. Arbor size is 5/8"-11.

RDH7247A Grinding Disc. 7" diameter. Maximum rated RPM is 8,600.

RDH9247A Grinding Disc. 9" diameter. Maximum rated RPM is 6,600.

Wire Wheels

Crimped Wire Wheels. Crimped bristles help prevent bending or breaking and are anchored without welds or crimps in flanges. .014" wire size. All wheels feature a plastic bushing that will provide either 1/2", 5/8", or 3/4" arbor size, or 1" if completely removed (2" on industrial models).

AC26D



AC47



Crimped Heavy Duty (Non-tempered Wire)

Stock No.	Brush Diameter inches	Width, inches	Arbor Hole, inches	Maximum Safe Free Speed, RPM
AC26D	6	1 1/4	5/8, 3/4, 1	6,000
AC27D	7	1 1/4	5/8, 3/4, 1	6,000
AC28D	8	1 3/8	5/8, 3/4, 1	4,500

Crimped Industrial (Tempered, High Density Wire)

Stock No.	Brush Diameter inches	Width, inches	Arbor Hole, inches	Maximum Safe Free Speed, RPM
AC46	6	1	5/8, 3/4, 1	6,000
AC47	7	1	5/8, 3/4, 1	6,000
AC48	8	1	5/8, 3/4, 1	4,500
AC1032A	10	1	5/8, 3/4, 1	3,500

AC207



Encapsulated

Individual wire tips are encased in a synthetic elastomer material for consistent stiff brushing action. While in use, elastomer material gradually wears away, exposing only the wire tips. Ideal for auto body and surface applications.

Stock No.	Wheel Diameter, inches	Wheel Width, inches	Wire Size, inches	Arbor Hole, inches	Maximum Safe Free Speed, RPM
AC207	2	1/4	.014	3/8, 1/2	18,000
AC217	3	1/4	.014	3/8, 1/2	18,000
AC227	6	7/16	.014	5/8	6,000

AC614A



Twisted Tuft

Tufts are 1 1/4" long and are twisted about 2/3 of the way.

Stock No.	Wheel Diameter, inches	Wheel Width, inches	Wire Size, inches	Arbor Hole, inches	Maximum Safe Free Speed, RPM
AC614A	6	1/2	.016	1/2, 5/8	9,000
AC618A	6	1/2	.0118	1/2, 5/8	9,000
AC632A	6	1	.0118	1/2, 5/8, 3/4, 1	8,000



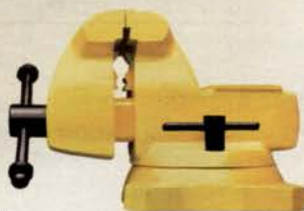
WARNING



- Do not operate without eyeshields, guards, and holders in place.
- Do not use grinding wheels, discs, or wire brushes above their maximum rated RPM.
- Do not grind on the side of grinding wheel or disc.
- Read additional safety precautions on pages M1 to M4.

Vises

WV1550VIS



High-Visibility Safety Vises

Vises promote safe work habits by eliminating hand-held work and reducing injury. Vises are coated in high-visibility yellow, which conforms to the OSHA safety color standard for physical hazards regulation #1910.144. Powder-coat finish resists scratches and gives a tough, durable finish. Handles and lockdowns are black oxide coated for additional corrosion resistance. Units feature a straight line design with totally enclosed spindle and nut, replacement pipe, and serrated vise jaws. 360° swivel base.

Stock No.	Jaw Width, inches	Maximum Opening, inches	Pipe Capacity, inches
WV1550VIS	5	5 1/4	1/4 - 2 1/2
WV1560VIS	6	5 3/4	1/4 - 3 1/2



WV1740



WV4044

Mechanic's Vises

For general purpose service and maintenance shops. Features include replaceable, reversible top jaws (one serrated steel, one smooth), built-in pipe jaws, swivel base and large anvil.

Stock No.	Jaw Width, inches	Maximum Opening, inches	Pipe Capacity, inches	Throat Depth, inches	Copper Jaw Cap
WV1745	4 1/2	4	3 1/4	3	WV4044
WV1755	5 1/2	5	3 1/2 - 3	3 3/4	WV4045
WV1765	6 1/2	6 1/2	3 1/2 - 3 1/2	4	WV4046
WV1780A	8	7	1 1/2 - 3 1/2	4 3/4	WV4046



WVC1

Pipe and Bench Vises

Large anvil, totally enclosed spindle and nut. 60,000 PSI high ductile iron main stress parts. Replaceable steel vise jaw inserts and milled steel pipe jaws. Alloy steel slide bar.

Stock No.	Jaw Width, inches	Maximum Opening, inches	Pipe Capacity, inches	Throat Depth, inches
WVC0	3 1/2	4	1/8 - 2 1/2	4 1/2
WVC1	4 1/2	6	1/8 - 3 1/2	4 3/4
WVC2	5	7	1/8 - 4 1/2	5 5/16
WVC3	6	9	3/8 - 6	6 5/8

WV674



Utility Vises

Regular-duty utility vises can be used for a variety of shop applications. Features include replaceable serrated jaws, built-in pipe jaws, swivel base and large anvil to handle a variety of jobs.

Stock No.	Jaw Width, inches	Maximum Opening, inches	Pipe Capacity, inches	Throat Depth, inches
WV674*	4 1/2	3 3/4	1/8 - 2	2 5/8
WV675	5 1/2	4 3/4	1/8 - 2	3 1/16
WV676	6 1/2	5 3/4	1/8 - 2 1/2	3 11/16
WV656	6	6	1/8 - 3	4 1/4
WV648*	8	7 1/2	1/8 - 3	4 1/2

*Features built-in pipe jaws, replaceable steel vise jaw inserts, a locking swivel base and rugged 30,000 PSI body casting.



WV400N



WV400S

Machinist's Vises

Choice of swivel or non-swivel base. Large anvil, totally enclosed spindle and nut. 60,000 PSI high ductile iron main stress parts. Swivel models feature slip-proof 360° base, serrated teeth, and double lockdowns.

Stock No.	Jaw Width, inches	Maximum Opening, inches	Throat Depth, inches	Base
WV300N	3	4 3/4	2 5/8	Stationary
WV350N	3 1/2	5 1/4	2 3/4	Stationary
WV400N	4	6 1/2	3 1/2	Stationary
WV450N	4 1/2	7 1/2	4	Stationary
WV500N	5	8	4 1/4	Stationary
WV600N	6	10	5 1/2	Stationary
WV800N	8	12	5 13/16	Stationary
WV300S	3	4 3/4	2 5/8	Swivel
WV350S	3 1/2	5 1/4	2 3/4	Swivel
WV400S	4	6 1/2	3 1/2	Swivel
WV450S	4 1/2	7 1/2	4	Swivel
WV500S	5	8	4 1/4	Swivel
WV600S	6	10	5 1/2	Swivel
WV800S	8	12	5 13/16	Swivel

WVE105RT



Forged Bench Vises

Forged construction for better grain flow than found in cast units. Gives better strength and dimensional stability. Hardened reversible jaw, large anvil and 360° swivel base.

Stock No.	Jaw Width, inches	Maximum Opening, inches	Pipe Capacity, inches
WVE104RT	4	3 15/16	1/4 - 3/4
WVE105RT	5	5 7/8	1/2 - 2 1/2
WVE106RT	6	7 7/8	1/2 - 3
WVE107RT	7	8 7/8	3/4 - 4

Vises and C-Clamps

Vise Accessories

WVA4



WVP4



WVF4



WVR4



Jaw Caps

"WVA" Series. Aluminum grooved caps hold uneven and circular pieces.

WVA4. Aluminum Face, 4".

WVA5. Aluminum Face, 5".

WVA6. Aluminum Face, 6".

"WVF" Series. Caps with heat-resistant, laminated fibers help prevent outside materials from being absorbed.

WVF4. Fiber Face, 4".

WVF5. Fiber Face, 5".

WVF6. Fiber Face, 6".

"WVP" Series. Prism caps have horizontal and vertical grooves for marking out, center punching, light tapping, and thread cutting.

WVP4. Prism Face, 4".

WVP5. Prism Face, 5".

WVP6. Prism Face, 6".

"WVR" Series. Caps have rubber covers.

WVR4. Rubber Face, 4".

WVR5. Rubber Face, 5".

WVR6. Rubber Face, 6".

C-Clamps

Medium Duty C-Clamps

Maximum strength ribbed iron frame. Steel screw with full standard threads and sliding T-handle. Large anvil and steel swivel pad to ensure secure clamping.

Stock No.	Throat Depth, inches	Capacity, inches	Diameter, inches	Spindle Throat, Style
CL537A	3 1/2	1 1/2	3/16	Deep
CL546A	6 1/4	2 1/2	3/8	Deep



Shop Fans

WIND100



WIND100 Heavy Duty Air Mover. Ideal for heavy duty air circulation applications. Use for drying carpets, upholstery or hard floors plus removing vapors from enclosed spaces. Maximum 2500 CFM output makes quick work of most jobs. Three-position discharge adjustment. Handle is molded in housing for increased strength and longer life. Three-speed switch.

WIND100 Specifications

Power	120VAC / 60 Hz
Speeds	3
Air Flow	1600 - 2000 - 2500 CFM
Air Flow Direction	0° / 30° / 90°
High Output Fan Size	10 3/4" Dia. X 10 1/2" W
Motor	.5 Hp
Motor Rating	Continuous Duty
Power Cord	15' (18/3)
Size, inches	18" H x 14" W x 20 1/2" D

WIND2



WIND2 Air Mover. Moves up to 300 cubic feet of air per minute (up to 30 feet away) on high speed. Rids your work area of heat, dust, fumes and odors. Two-speed switch for low or high volume air movement. Also use to dry wet surfaces, including paint, carpeting and floors. Features two built-in 15 amp grounded receptacles for power tools and a long 20', 14 gauge, 3-wire grounded cord (UL Listed). Carrying handle for portability.

See Warranty Information on inside front cover.

WIND10 Ceiling Fan.

Recirculates warm air from the ceiling to increase comfort level and reduce heating expenses. Requires ceiling outlet or extension cord (not included). Made from fire retardant styrene. Corrosion resistant. 120VAC/60 Hz, 0.54 amps. Height is 12.2". 10.6" diameter.

WIND10



WIND11 Ceiling Fan. Balances ceiling and floor temperatures in facilities with ceiling heights of 10 to 45 feet like service bays, warehouses, hangers and greenhouses. Includes 40 feet of flexible ducting that can be cut to any desired length. Recirculates warm air from the ceiling to increase comfort level and reduce heating expenses. Requires ceiling outlet or extension cord (not included). Made from fire retardant styrene. Corrosion resistant. 120VAC/60 Hz, 0.54 amps. Height is 11.5". 10" diameter.

WIND3



WIND3 Air Mover Heater Element (for the WIND2). Heater element for the WIND2 Air Mover. Provides heat source for cool weather or improved drying when needed. Heater element plugs into handle receptacle on WIND2. Features automatic over-temperature safety shut-off and lighted On/Off switch. Output is 5300 BTU. Requires 120VAC. Heater with blower draws 11.7 amps. UL Listed.



WARNING

- Do not operate without eyeshields, guards, and holders in place.
- Do not use grinding wheels, discs, or wire brushes above their maximum rated RPM.
- Do not grind on the side of grinding wheel or disc.
- Read additional safety precautions on pages M1 to M4.



Vacuums

YA1023



YA1023 Industrial Duty Wet/Dry Vacuum. 23 gallon features dual, 1 hp. motors for maximum performance and a rear-mounted drain hose that is easy to empty. Large stair-climbing wheels on the rear enable walking up stairs with a pull. The dual motors enable you to run one or both depending on how much suction is needed.

Snap-on® industrial-duty wet/dry vacuums optimize water lift/CFM (cubic feet/minute) and advanced manufacturing design to give you superior performance and maximum suction. YA1023 and YA1011 Vacuums feature:

- Large 11 gallon or 23 gallon capacity units.
- Lower RPM motor for longer service life and quieter operation.
- Ball bearing motor for longer life.
- Motor housing has sure seal gasket to ensure no air leakage.
- Top-molded handle lifts vacuum head off easily.
- Removable float protector stops debris from building up around float.
- Polyethylene tank won't dent or rust and has structural ridges for added strength.
- Smooth rolling 4-wheel design (large rear stair climbing wheels on YA1023 walks up stairs with a pull).
- Extra-large cloth filters for dry recovery.

YA1011



YA1011 Industrial Duty Wet/Dry Vacuum. Single, 1.4 hp. unit with 11 gallon tank capacity.

YA1009SS



YA1009SS Industrial Wet/Dry Vacuum. Heavy duty, anti-flame motor housing has molded handle for easy removal of head. Float protector stops debris from building up around float. Low RPM motor features ball bearings for longer life. Heavy duty polished stainless steel 9 gallon tank. Water-resistant on/off switch. Poly filter is easily removed for various applications. Automatic shut-off prevents water from entering motor. Requires 120VAC power. Draws 8.5 amps. 1.4 horsepower motor. UL Listed. Includes:

- 1.5" x 8' poly hose with sleeve.
- 1.5" two-piece double curved wand.
- 1.5" two-piece extension wand.
- 17" squeegee tool.
- 17" floor brush tool.
- Three-piece tool adaptor kit (crevice tool, brush and adaptor).

AV1000



Hand Held Vacuum

AV1000 Air Powered Vacuum. Ideal for vehicle media installation shops. Designed to get in tight quarters. Lightweight, balanced design. Comfortable pistol-grip handle. Rotating, removable aluminum suction tube. Multi-angle brush attachment is ideal for vehicle interiors. Zipper at bottom of bag for quick removal of debris. Built-in hang up hook at top of handle for convenient storage. CE Conformity.

AV1000 Specifications

Recommended Air Pressure, PSIG (kPa)	90 (620)
Air Consumption, Average, CFM (SCFM) [l/min]	3 (21) [84.95]
Sound Level, Free Speed, dBA	81.2
Sound Level, Working, dBA	81.2
Air Inlet Thread Size	1/4"-18 NPT
Recommended Hose Size, inches (mm)	3/8 (10)
Length (Without Bag), inches (mm)	16 (406)
Brush head Size (Oval), inches (mm)	1 1/2 x 2 1/4 (38.5 x 57.1)
Bag Size, inches (mm)	8 1/2 x 6 (215.9 x 152.4)
Weight, lbs (kg)	1.54 (0.70)

CLEAN1



YA1102



Dirt / Stain Extractors

YA1102 Dirt and Stain Extractor. A complete and portable power cleaning system. Features powerful water lift and 55 psi jet spray, two gallon solution tank, two gallon recovery tank, a 1.2 horsepower motor, 8' vacuum and pressure hose, and 25' power cord. Use on surfaces such as carpeting and seat fabrics, as well as a multitude of other cleaning needs. Use with CLEAN1 Cleaner Solution (32 oz.) sold separately. Pre-spray a test area prior to using.

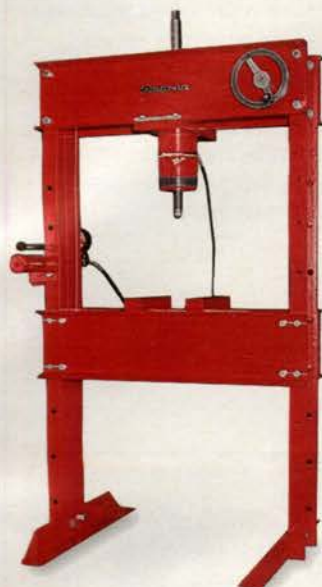
CLEAN1 Cleaning Solution. Fresh scent formula is a specially formulated multi-surface cleaner for tires, aluminum and alloy wheels, carpets, seats and other interior fabrics. Recommended to for easy removal of UV dyes from AC units. Designed to work alone or with Snap-on YA1102 Dirt and Stain Extractor. Great for all cleaning jobs in the shop or at home. Case of twelve (32 oz) spray bottles.

CLEAN1GAL Cleaning Solution (1 Gallon). Case of four (1 gallon) bottles.

Hydraulic Floor and Bench Presses

Hydraulic (50, 35, 20, 10, and 4-ton) Presses will handle many pressing, straightening, and assembling jobs. Rams may be moved in any lateral position. Two work blocks, included with each unit, are held in place by

extended bosses at the bottom. Work rails can be raised or lowered in 7" increments on 50-ton unit, 5" increments on 35-ton unit, 3" increments on 20-ton unit, and 4" increments on the 10-ton bench models.



CG750BHY

50-ton Floor Presses

CG570BHY 50-ton Floor Press. Includes table lifting mechanism, frame, ram, pump, work blocks, and the accessories.

CG570BHY2S. This is the CG570BHY with the 2-stage pump.

35-ton Floor Presses

CG770HY 35-ton Floor Press. Includes table lifting mechanism, frame, ram, pump, work blocks, and the accessories.

CG770HY2S. This is the CG770HY with the 2-stage pump.



CG170HY

10-ton Bench Press

CG170HY 10-ton Bench Press. Includes frame, ram, pump, work blocks, and the accessories.

20-ton Floor Presses

CG473HY 20-ton Floor Press. Includes table lifting mechanism, frame, ram, pump, work blocks, and the accessories.

CG473HY2S. This is the CG473HY with the 2-stage pump.

CG470BHY. This is the CG473HY without the table lifting mechanism.

CG470BHY2S. This is the CG470BHY with the 2-stage pump.

CG472 Table Lifting Mechanism. Allows conversion of CG470BHY or CG470BHY2S to CG473HY or CG473HY2S.

CG173 Step Plate Set.

11 pcs. Include (Components described in table at right):

CG173-1	CG173-4	CG471-6	CG471-9
CG173-2	CG173-5	CG471-7	CG471-10
CG173-3	CG471-5	CG471-8	

CG471A Step Plate Set.

13 pcs. Include (Components described in table at right):

CG471-5	CG471-9	CG471-12	CG471-15
CG471-6	CG471-10	CG471-13	CG471-16
CG471-7	CG471-11	CG471-14	CG471-17
CG471-8			

CG471-2



CG550-13



CG471-1



Floor / Bench Press Specifications and Accessories

Stock No.	Overall Height, Base inches	Work Area Width, inches	Channel Width, inches	Side Head Work Rail	Working Distance, inches	"V" Block	Bull Nose Adaptor Stock No.	Pressure Screw "V" Adaptor	Step Plate Set	Table Lifting Mechanism
CG570BHY	72	3' x 3 1/2'	36	8 10 10	3 3/4 39 1/4	CG471-2 (2)	CG550-13 1	—	CG471A	Included
CG570BHY2S							CG550-14 1 1/2			
CG770HY	69	2 1/2' x 3'	28	5 10 10	2 1/4 40 7/8	CG471-2 (2)	CG770-1 7/8	—	CG471A	Included
CG770HY2S							CG770-2 1 1/8			
CG473HY	60	2' x 3'	20 1/2	5 5 5	4 39 3/4	CG471-2 (2)	CG471-3 1/2	CG471-1 (2)	CG471A	Included
CG473HY2S							CG471-4 3/4			
CG470BHY	60	2' x 3'	20 1/2	5 5 5	4 39 3/4	CG471-2 (2)	CG471-3 1/2	CG471-1 (2)	CG471A	CG472
CG470BHY2S							CG471-4 3/4			
CG170HY	32 1/2	1' x 2'	—	3 4 4	3 1/4 19 1/4	CG170-14 (2)	CG170-16 3/8	CG170-15	CG173	—
							CG170-17 1/2			
CG105HY	18	11" x 6"	—	2 2 2	— —	—	—	CG105-7	—	—



WARNING

• Read additional safety precautions on pages M1 to M4.

See Warranty Information on inside front cover.

E134

Presses

Hydraulic 12 and 20-Ton Presses

Specifications	YA621A*	YA627A
Capacity, Tons	12	20
Height, inches	62 3/8	75
Base Width, inches	29	26 3/4
Base Depth, inches	30	36
Bed Depth, inches	7 5/8	9 1/4
Press Bed Width, inches	23 1/4-29	23 1/4-29 3/8
Press Frame	—	YA618
Press Jack	—	YA234
Ram Travel, inches	5 1/2	7 3/4
Working Range, inches	2 3/4-26 3/4	3 1/2-39 1/2

* Includes frame with 3" x 7 3/4" x 1" arbor plates with both 1" and 2" cutouts, plus a bearing safety shield. Also includes jack with 5 1/2" ram travel.



- Dual return springs retract ram
- Steel cross brace prevents spreading of frame under load
- Adjustable press bed
- Comes complete with arbor plate and bearing shield
- Jacks pre-tapped for optional pressure gauge

Arbor Presses

3-ton Arbor Press

CG100 Arbor Press.

Frame is 2" steel channel. Bolts to work bench. Gearing multiplies handle pressure up to 3-ton force. Set includes arbor press frame, CG100-14 Utility Punch, CG100-15 Work Block, and CG100-16 Adaptor to convert 1/2" drive to 5/16" round drive.

CG100 Specifications

Dimensions	18" high, 11 1/8" wide
Base Size	11 1/8" x 6 1/8"
Vertical Capacity	12 3/4"
Opening Width	9"
Width Between Work Brackets	9"
Pressure Shaft Stroke	9" (when utility punch is attached)

Optional Accessories for CG100. The adaptors from A57Q Bushing Driver Set can be used with CG100-16 5/16" Round Drive Adaptor. The CJ951 Bearing Separator fits neatly between the work support brackets.

YA303A Turbo Air/Hydraulic Pump. Pump design uses exhaust air to power pump to provide 10,000 PSI while only using 80 PSI of air. Large reservoir capacity increases system flexibility. Air and hydraulic filters reduce potential for damage from contaminants. Horizontal or vertical operation by hand or foot.



WVARBOR1



1-ton Arbor Press

WVARBOR1 Arbor Press.

Use for all production and assembly applications. Lever can be adjusted for specific jobs and to provide maximum leverage. Precision cut steel ram and pinion for accurate operation. Table and slotted table-plates are flat and parallel to provide accurate support.

WVARBOR1 Specifications

Vertical Capacity	5" (127mm)
Ram Size	1" sq. x 9 1/8" long (25.4mm sq. x 231.8mm long)
Pressure, tons	1
Base Size	5" x 10 3/4" (127mm x 273.1mm)
Height, inches (mm)	12 (304.8)
Weight, lbs (kg)	23 (10.4)

WV2500 Floor Model Drill Press. Rugged, cast iron design with ground steel column for continuous drilling accuracy in metal, wood, and plastic. Equipped with locking rack and pinion mechanisms for height adjustment, three-spoke handle with adjustable tension spring and depth stop, and front-mounted locking power switch. The WV2500 also tilts 45° right or left for angle drilling. Four heavy-duty ball bearings are mounted on a 1 7/8" quill for accuracy and long life.

WV2500 Specifications

Motor	1/2 hp, 1725 RPM, 1 Phase
Capacity, Cast Iron	up to 5/8"
Capacity, Steel	up to 1/2"
Chuck Size, inches	3/8" key chuck
Drills to Center	15"
Quill Diameter	1 7/8"
Spindle Speeds	12 selectable (250 to 3100 RPM)
Spindle to Base	48 3/4"
Spindle Travel	3 3/8"
Table Size	10" x 10"
Table Work Surface	10" x 10"
Column Diameter	2 1/4"
Base Size	11" x 19 1/2"
Overall Dimensions	26" x 13 3/8" x 63 1/2"



WV5816. Drill press provides speeds from 400 to 5,000 RPM with a LED spindle RPM read-out. 0 to 1/2" (0 to 12.7mm) key chuck and arbor are standard. 6" (152.4mm) spindle stroke. Rack and pinion table raiser for quick and easy table positioning. Heavy duty cast iron construction. Large cast iron T-slotted production table. Press also features a positive depth stop.

WV5816 Specifications

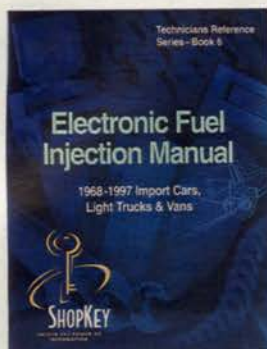
Motor	1 hp, 120 VAC, 1 Phase
Capacity, Cast Iron	up to 5/8"
Capacity, Steel	up to 1/2"
Chuck Size, inches	1/2" key chuck
Drills to Center	15"
Quill Diameter	2 1/4"
Spindle Speeds	400 to 5000 RPM
Spindle to Base	47 1/2"
Spindle Travel	6"
Table Size	15 1/4" x 17 3/4"
Table Work Surface	12 1/4" x 14 1/4"
Column Diameter	3" (7.2)
Spindle to Table	41"
T-Slot Size	1/2"
Height	67 1/2"

Drill Presses

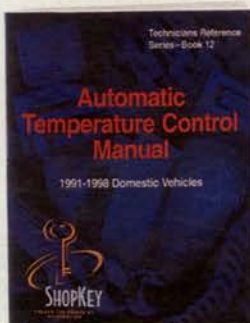
SHOPKEY® Service and Training Manuals

SHOPKEY® Service Manuals

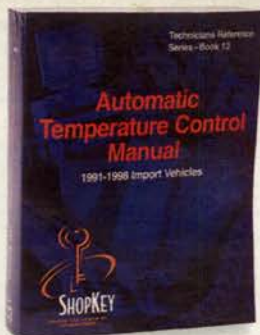
SKIEFI98



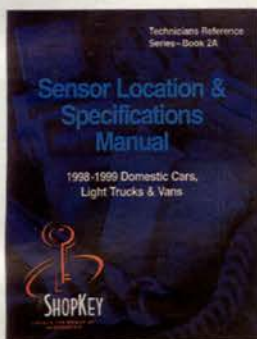
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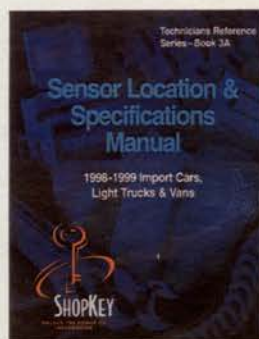
SKIATC00



SKDSSM00



SKISSM00



SKCECL2V



SKIEFI98 SHOPKEY® Import Electronic Fuel Injection Manual. Covers 1968-1997 imported vehicles. Includes component testing, specifications and testing, illustrations, wiring diagrams plus fuel injection system descriptions and operations.

SKECAG02 SHOPKEY® Emission Control Application Guide Manual. Covers domestic cars 1996-2002 (including Class A motor homes) plus import vehicles 1968-2002 (State Emission Standards). Includes basic ignition timing specifications, emission control device and system applications, EGR functional testing plus maintenance reminder light reset procedures.

SKDATC99 SHOPKEY® Domestic Air Temperature Control Manual. Covers 1991-1998 domestic vehicles. Provides detailed illustrations of component locations, specification tables, wiring diagrams, general operations plus testing and repair procedures. Main sections cover general servicing information and air bag safety systems, automatic air conditioning and heating systems and electric cooling fans.

SKIATC00 SHOPKEY® Import Automatic Temperature Control Manual. Covers import cars, light trucks and vans 1991-1998. An easy-to-follow layout of manufacturers plus a consistent outline of descriptions, operations, testing and repair procedures, wiring diagrams, illustrations of component locations and specification tables. Contents include general service information, air bag safety systems, automatic a/c heater systems and electric cooling fans.

SKDSSM00 SHOPKEY® Domestic Sensor Locations and Specifications Manual. Supplement to SKDSSM98 Manual (1981-1997 model years) that provides coverage for the 1998-1999 model years for domestic cars, light trucks and vans. Contents include sensor testing and specifications, diagnostic connector locations, computerized engine controls component locations and electrical schematics.

SKISSM00 SHOPKEY® Import Sensor Locations and Specifications Manual. Covers 1998-1999 import cars, light trucks and vans. Supplement to SKISSM98 Manual that covers earlier model years. Includes testing procedures, system wiring diagrams, sensor locations, specifications and quick-check reference tables.

SKCECL2V SHOPKEY® Computerized Engine Control Component Locator Manual. Covers 1981-1999 domestic and 1986-1999 import vehicles. Includes computerized engine control component locations and typical electronic schematics. Easily helps to locate all engine performance related modules, motor sensors, solenoids, switches and valves. Includes two manuals.

SKCECLO0 SHOPKEY® Computerized Engine Control Component Locator Supplement Manual. Covers 1998-1999 domestic and import vehicles. Supplement to SKCECL98 Manual that covers earlier model years. Includes computerized engine control component locations and typical electronic schematics.

SKTIM01 SHOPKEY® Timing Belt Service Supplement Manual. For 1974-2001 domestic and import vehicles. Includes timing belt removal/installation, inspection, torque specifications, timing belt application table, recommended replacement intervals, tensioning procedures, labor times information and more. Comprehensive and amply illustrated.

SKDIO201 SHOPKEY® Domestic/Import Labor Estimating Manual. Covers labor estimating rates for 1974-2002 domestic cars, light trucks and vans plus 1974-2001 import cars, light trucks and vans. 15 domestic and 29 import manufacturers are referenced. More than 30,000 different vehicle configurations are catalogued. Separate guides for domestic and imported vehicles. Rates provided for estimating labor rates for almost every major system in a vehicle. Uses Industry Standard Estimating information.

SHOPKEY® Service and Training Manuals

ASE Certification gives every technician the extra credentials to prove their experience and competence to both customers and employers. Each manual in the series contains test taking strategies, ASE task lists and system overviews, sample tests,

helpful illustrations and charts, additional test questions, explanations to the answers and glossary of terms. Books are paper-bound and measure 8 1/2" x 11".

SHOPKEY® ASE Test Preparation Manuals (Automobiles)

- SKASEA102 SHOPKEY® Engine Repair.** Complete test preparation information for the ASE Engine Repair Test (A1).
- SKASEA202 SHOPKEY® Automatic Transmissions.** Complete test preparation information for the ASE Automatic Transmission Test (A2).
- SKASEA302 SHOPKEY® Manual Drive Train and Axles.** Complete test preparation information for the ASE Manual Drive Train and Axles (A3).
- SKASEA402 SHOPKEY® Suspension and Steering.** Complete test preparation information for the ASE Suspension and Steering Test (A4).
- SKASEA502 SHOPKEY® Brakes.** Complete test preparation information for the ASE Brake Systems Test (A5).
- SKASEA602 SHOPKEY® Electrical and Electronic.** Complete test preparation information for the ASE Electrical and Electronic Test (A6).
- SKASEA702 SHOPKEY® Heating and Air Conditioning.** Complete test preparation information for the ASE Heating and Air Conditioning Test (A7).
- SKASEA802 SHOPKEY® Engine Performance.** Complete test preparation information for the ASE Engine Performance Test (A8).
- SKASEL102 SHOPKEY® Advanced Engine Performance.** Complete test preparation information for the ASE Advanced Engine Performance Test (L1).

SKASE02



- SKASEP202 SHOPKEY® Parts Specialist.** Complete test preparation information for the ASE Parts Specialist Test (P1).
- SKASEX102 SHOPKEY® Exhaust System.** Complete test preparation information for the ASE Exhaust Systems Test (X1).
- SKASE02 SHOPKEY® ASE Automobile Test Preparation Manuals Set.** Includes all 11 SHOPKEY™ ASE Automobile Test Preparation Manuals packaged in the SKACASE Slipcase.
- SKACASE SHOPKEY® Slipcase.** Storage slipcase for SHOPKEY™ ASE Automobile Test Preparation Manuals.

SHOPKEY® ASE Test Preparation Manuals (Med./Heavy Trucks)

- SKASET102 SHOPKEY® Gasoline Engine.** Complete test preparation information for the ASE Truck Gasoline Engine Test (T1).
- SKASET202 SHOPKEY® Diesel Engine.** Complete test preparation information for the ASE Truck Diesel Engine Test (T2).
- SKASET302 SHOPKEY® Drive Train.** Complete test preparation information for the ASE Truck Drive Train Test (T3).
- SKASET402 SHOPKEY® Brakes.** Complete test preparation information for the ASE Truck Brakes Test (T4).
- SKASET502 SHOPKEY® Suspension and Steering.** Complete test preparation information for the ASE Truck Suspension and Steering Test (T5).
- SKASET602 SHOPKEY® Electrical and Electronic.** Complete test preparation information for the ASE Truck Electrical and Electronic Test (T6).
- SKASET702 SHOPKEY® Heating and A/C.** Complete test preparation information for the ASE Truck Heating and A/C Test (T7).

SKTASE02



- SKASET802 SHOPKEY® Preventative Maintenance.** Complete test preparation information for the ASE Truck Preventative Maintenance Test (T8).
- SKTASE02 SHOPKEY® ASE Truck Test Preparation Manuals Set.** Includes all 8 SHOPKEY™ ASE Truck Test Preparation Manuals packaged in the SKTCASE Slipcase.
- SKTCASE SHOPKEY® Slipcase.** Storage slipcase for SHOPKEY™ ASE Truck Test Preparation Manuals.

Sales Aids and Technical Manuals

SS444D



SS820



SS1136



Banners

Our banners measure a full 34" x 82". Each banner is made of tough, durable, weather-resistant plastic. They feature reinforced corners and double stitching along the edges. Included are corner ropes to tie your banner in place; each rope is a full 5' long.

SS444D Air-conditioning Service. Made of durable, weather-resistant plastic. Measures 82" x 34". Features reinforced corners and double stitching along the edges. Includes 60" ropes at corners. Air-conditioning service.

SS820 Fuel Injection Service. Fuel injection service.

SS1136 Banner. For scanner.

Technical Manuals / Motorcycles / Dirt Bikes / ATV's

AUT2002



AUT2002 Technical Data Manual. Manual contains technical data for domestic and imported motorcycles, dirt bikes and ATV's from 1989 to 2002. Covers such topics as tuning, service checks, lubricants and capacities, adjustments, tire sizes and pressures plus torque specifications. Covers such manufacturers as APRILIA, ARTIC CAT, BMW, BUELL, CAGIVA, CANNONDALE, CZ, DUCATI, HARLEY-DAVIDSON, HONDA, ITALJET, JAWA, KAWASAKI, KTM, LAVERDA, MORINI, MOTO GUZZI, MUZ, MV AGUSTA, PIAGGIO, POLARIS, ROYAL ENFIELD, SUZUKI, TRIUMPH and YAMAHA.

Back Supports

Snap-on® back supports are curved, firm support pads that provide a surface for the back to conform to. The curved pad follows the spine and has been shown to help reduce back fatigue. Features a unique patented lumbar pad design to firmly support the lower back, thereby promoting correct posture. U.S. Patent No. 5,429,587. Snap-on® back supports are not a replacement for proper workplace design and proper training in lifting, twisting, and bending movements.

BACK1S. Size small, 27" to 32" waist. Red.

BACK1M. Size medium, 31" to 36" waist. Red.

BACK1L. Size large, 35" to 40" waist. Red.

BACK1XL. Size extra-large, 39" to 44" waist. Red.

BACK1XXL. Size XX-large, 43" to 48" waist. Red.

BACK1SBK. Size small, 27" to 32" waist. Black.

BACK1MBK. Size medium, 31" to 36" waist. Black.

BACK1LBK. Size large, 35" to 40" waist. Black.

BACK1XLBK. Size extra-large, 39" to 44" waist. Black.

BACK1XXLBK. Size XX-large, 43" to 48" waist. Black.



Arm Protectors / Knee Pads

HS700A Hot Sleeve Arm Protector. Protects arm from burns when working around engines. Fits either right or left arm, protecting hand and forearm. Two layer heat resistant Kevlar® for extra protection. Washable. 15" (381mm) overall length.

HS700A

KNEEPAD2

KNEEPAD3



KNEEPAD2 Knee Pads. Tough, hard polypropylene cap protects against floor debris plus increases life of pad. Outer cap is securely attached to padded nylon inner pad for maximum comfort. Extra-wide velcro straps for easy on/off. Lightweight.

KNEEPAD3 Knee Pads. Wide neoprene rear lower flap helps eliminate chafing. Gel-Cushioned for maximum comfort. Velcro Straps for easy on/off, secure fit and extra comfort. Rugged wear cap is extended to provide protection for the upper shin. Special "Orthowick" lining helps reduce perspiration. Hinged Pad Extensions for a more comfortable fit. Embossed Snap-on® logo. Made in USA.

▲ Read safety precautions on pages M1 to M4.

Shop Supplies

Gloves Shop Supplies

Latex Technician's Gloves

Hypo-allergenic gloves reduce the chance of allergic reaction and protect hands from paint, grease, and harsh chemicals. 6 mil thick, contoured fit. Manufactured from natural rubber material with an ambidextrous design.

Light Powder Disposable.

GLOVE1M. Size medium, box of 100.

GLOVE1L. Size large, box of 100.

GLOVE1XL. Size extra-large, box of 100.

Powder Free

Powder-free manufacture makes these gloves the ideal choice for paint and body shops where a dust free environment is critical. Disposable.

GLOVE3LA. Size large, box of 100.

GLOVE3MA. Size medium, box of 100.

GLOVE3XL. Size extra-large, box of 100.

GLOVE1M



GLOVE6L



Heavy Duty Latex Technician's Gloves

Gloves feature 14 mil thickness for heavy duty usage (standard gloves are 5-6 mil thick.) Textured fingers and palm for maximum grip. Lightly powdered for easy on and off. Will resist most shop chemicals. Long cuff. Blue color.

GLOVE6M. Medium size. Box of 50.

GLOVE6L. Large size. Box of 50.

GLOVE6XL. Extra Large size. Box of 50.

Nitrile Technician's Gloves

Gloves resist nicks, cuts and abrasions and protect against splash from irritating chemicals. Three times the puncture resistance of natural latex or vinyl gloves. 100% Nitrile—no fillers, silicone or plasticizers. Light cornstarch dusting inside glove facilitates removal with minimal powder residue. Micro textured for better gripping. Blue color.

GLOVE5M. Size medium. Box of 100.

GLOVE5L. Size large. Box of 100.

GLOVE5XL. Size extra-large. Box of 100.

GLOVE5M



GLOVEHOLDER



Glove Dispenser

GLOVEHOLDER Latex Glove Dispensing Rack. Dispenser for boxes of technician's gloves. Use with GLOVE1 Series, GLOVE3 Series, GLOVE5 Series and GLOVE6 Series. Metal construction prevents damage to box holding gloves. Magnetic base allows attachment to tool storage unit or any flat ferrous metal surface. Three "springs" secure box firmly in holder. Mounting holes for attachment to non-ferrous surfaces. Overall Dimensions: 10" x 5.62" x 3.88".

Chemical Gloves

Gloves protect hands against petroleum solvents such as grease, oil cleaners and acids. Nitrile flock-lined gloves. Durable and puncture resistant, yet flexible enough for work using spray guns. 15 mil. thick.

GLOVE2L. Size large

GLOVE2M. Size medium

GLOVE2XL. Size extra large

GLOVE2L



Anti-Vibration Gloves

Gloves absorb shock to reduce risk of injury from prolonged exposure to impact and vibration. Padded throughout palm, thumb and index finger with four-way stretch nylon mesh back.

VALGLAXPLG. 1/2 finger cowhide with hook and loop closure tabs. Black. Size large.

VALGLAXPXLG. Same as VALGLAXPLG except extra-large size.

GLOVE113M. Full finger impact glove helps deaden the impact of air tools, hammer blows and other striking tools. AVG® padding in palm, thumb and all fingers to protect against vibration. Padded area covered with heat resistant synthetic leather. Double layered palm for extra protection. Stretch-knit padded back for flexibility. Elastic cuff with hook and loop closure. Medium size.

GLOVE113L. Same as GLOVE113M except large size.

GLOVE113XL. Same as GLOVE113M except extra-large size.

VALGLAXPLG



Unlined Leather Work Gloves

Suitable for heavy-duty work and wear. Feature comfort fit thumbs for dexterity and flexibility. Embossed Snap-on® logo on the back.

GLOVE100L. Black leather. Size large.

GLOVE100M. Black leather. Size medium.

GLOVE100XL. Black leather. Size extra-large.

GLOVE104M. Tan leather. Adjustable strap on back of glove for a secure fit. Size medium.

GLOVE104L. Tan leather. Adjustable strap on back of glove for a secure fit. Size large.

GLOVE104XL. Tan leather. Adjustable strap on back of glove for a secure fit. Size extra-large.

GLOVE100L



GLOVE104XL



GLOVE101L

GLOVE105XL



Lined Leather Work Gloves

GLOVE101L. Suitable for heavy-duty work and wear. Lined for protection and warmth. Embossed Snap-on® logo on the back. Black leather. Size large.

GLOVE101M. Same as GLOVE101L except medium size.

GLOVE101XL. Same as GLOVE101L except extra-large size.

GLOVE105M. Tan premium grade leather. Gunn-cut design with keystone thumb for improved thumb movement. Dacron polyester insulation and nylon lining. Adjustable belt on back of glove for a secure fit. Size medium.

GLOVE105L. Same as GLOVE105M except large size.

GLOVE105XL. Same as GLOVE105M except extra-large size.

Washable Work Gloves

Gloves feature stretch knit with padded back to provide extra feel and flexibility to grasp small objects. Heat resistant synthetic double-layered leather palm for longer life. Elastic cuff with hook and loop closure.

GLOVE103M. Black. Medium size. 1 pair.

GLOVE103L. Black. Large size. 1 pair.

GLOVE103XL. Black. Extra Large size. 1 pair.

GLOVE103MB. Blue. Medium size. 1 pair.

GLOVE103LB. Blue. Large size. 1 pair.

GLOVE103XLB. Blue. Extra-large size. 1 pair.

GLOVE103M



Kevlar® Gloves (Rubber Grip)

Gloves feature stretch knit with rubber grips to provide extra feel and flexibility. Heat resistant synthetic Kevlar® construction. Elastic cuff with hook and loop closure.

GLOVE200L. Ideal for handling warm, textured or slippery items. Common applications include metal stamping, manufacturing, glass handling, sheet metal, assembly, recycling and welding uses. Rubber palms provide exceptional grip. Special treatment resists water and oil penetration. Cut, slash and heat resistant. Size large.

GLOVE200L



Shop Supplies Auto Care / Detailing



Cleaners, Polishes and Sealants

POLISHPACK6 Auto Care Kit. Kit contains (1) 32 oz. bottle of each of the following products: CLEAN1 Multi-Surface Cleaner, POLISH6 Multi-Surface Protectant, POLISH7 Glass/Hard Surface Cleaner, POLISH8 Detailer/Cleaner, POLISH9 Tire Dressing/Protective Gel and sample size of POLISHW1GAL Premium Carwash.

POLISH1CSA Polish/Sealant. Clean, polish and seal in one fast, simple application. Performs superbly on acrylic, enamel, lacquer, urethane, all clear coats, fiberglass, and plastics. Removes dirt, carbon contamination, pollutants and oxidation while restoring original depth and luster. Contains no wax or free silicones. Designed for outstanding results on tough colors such as red and black. For best results, use with POLISHD8B Detailing Pad. Case of (12) 16 oz. bottles.

POLISH2 Metal Polish. Add a bright luster to metal with this high quality polish. POLISH2 can be used on aluminum, chrome, stainless steel, brass, copper, silver and gold. Comes with cloth-like applicator. Net weight: 3 oz.

POLISH6 Surface Protector/Tire Shine. Multi-surface protectant, specially formulated to clean, restore, and protect tires, vinyl, rubber, plastic, and leather surfaces. Leaves an anti-static coating on surfaces to repel dirt and dust while preserving their natural beauty and luster. Case of 12 (32 oz.) spray bottles.

POLISH7 Glass/Hard Surface Cleaner. Quickly dissolves film, soil, dirt, grease, finger-prints, and grime from windows, windshields, mirrors, ceramic, porcelain, stainless steel, and chrome surfaces. Case of 12 (32 oz.) spray bottles only.

POLISH8 Professional Detailer. Premium quality quick mist and wipe detailer for fast touch-ups on all clear coat and painted surfaces which enhances protection between polishing. Used to detail and remove dusty film from cars without using water. Recommended for use with POLISHM16A micro wipes. Case of 12 (32 oz.) spray bottles.

POLISH9 Tire Dressing/Protective Gel. Concentrated tire dressing and protective gel that protects against ozone and UV light that attach tires and its polymers. Tires won't brown or turn gray. Keeps new tires looking new, but will also give dull and faded tires a wet, black shine. Enriches black rubber bumpers and vinyl trim. Apply with WOD6000 heavy-duty towel. Case of 12 (32 oz.) bottles.

CLEAN1 Cleaning Solution. Fresh scent formula is a specially formulated multi-surface cleaner for tires, aluminum and alloy wheels, carpets, seats and other interior fabrics. Recommended to for easy removal of UV dyes from AC units. Designed to work alone or with Snap-on YA1102 Dirt and Stain Extractor. Great for all cleaning jobs in the shop or at home. Case of 12 (32 oz.) spray bottles.

CLEAN1GAL Cleaning Solution. Fresh scent formula is a specially formulated multi-surface cleaner for tires, aluminum and alloy wheels, carpets, seats and other interior fabrics. Recommended to for easy removal of UV dyes from AC units. Designed to work alone or with Snap-on YA1102 Dirt and Stain Extractor. Great for all cleaning jobs in the shop or at home. Case of 4 (1 gallon) bottles.

POLISH5CSA Buffing Compound. Levels 1200-grit or finer sandpaper scratches. One-step buffing on most colors and clear coats on fresh or aged finishes. Brightens dull finishes, removes scratches and heavy paint overspray. No wax, silicone or crystalline silica. Water-based so there is no staining, etching or dusting. For best results use with Snap-on® Buffing Pad POLISHB8B. Protect final results with POLISH1CSA Polish/Sealant. Case of 6 (32-oz.) bottles.

POLISHB8B

POLISHW8A

POLISHW1GAL

POLISHD8B

POLISHM16A

Buffing and Detailing

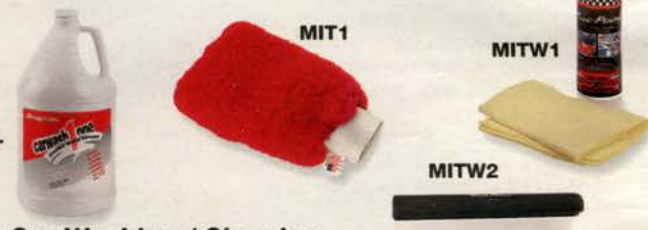
POLISHD8B / POLISHB8B ONLY - Use on base coat and clear coat paints, acrylics, enamels, lacquers, urethane, fiberglass and plastics. 2" thick, high density foam is tear resistant and durable to handle more jobs than competitive pads. Concave surface minimizes splatter for more efficient material use. Balanced pads feature a back-up plate to apply polish evenly and reduce operator fatigue. Reduced clean-up time because pad will last and will not shred or waste polish solution.

POLISHB8B Buffing Pad. 8" yellow buffing pad for use with electric and pneumatic power tools with 5/8"-11 thread. Use with POLISH5CSA Buffing Compound.

POLISHD8B Detailing Pad. 8" white detailing pad for use with electric and pneumatic power tools with 5/8"-11 thread. Use with POLISH1CSA Professional Polish/Sealant.

POLISHW8A Wool Buffing Pad. Ideal for cutting, buffing, and removal of scratches and paint imperfections. 1 1/2" wool pile last longer than standard wool pads. Washable for easy clean-up. Use for base and clear coats, acrylic, enamel, lacquer, urethane, fiberglass, plastics and other applications. Can be used with AT450P, AT460P, ET1460, ET1480, ET1490 and ETB1570 Polishes

POLISHM16A Microfiber Wipe. Perfect for finishing work. Designed and tested for superior performance. Large 16" x 16" size. Changes surface static charge for maximum performance. Washable. Use with POLISH1CSA, POLISH2 and POLISH5CSA.



Car Washing / Cleaning

POLISHW1GAL Car Wash. Super concentrated premium quality car and truck wash for hand and automatic washing applications. Free rinsing formulation leaves vehicle surfaces clean and shiny without spotting or streaking. Case of 4 (1 gallon) bottles.

MIT1 Wash Mitt. Synthetic lamb's wool 7" x 9". Pile height is 1 1/4". Non-matting or tangling wash mitt with elastic wrist band. Toss in the washer and dryer after use. Red.

MITW1 Synthetic Chamois. Plastic storage tube keeps chamois moist and ready to use. Outlasts genuine chamois. Machine washable. Large 17" x 27" size.

MITW2 California Water Blade. Patented medical-grade silicone T-Blade removes water in one pass, even on contoured surfaces. Will not scratch surface or leave deposits. Reduces time spent in drying vehicle. Overall length is 12" (304.8mm).

POLISHMOP1 Mini Duster. Removes dust without scratching the surface. Long lasting dusting head features magnetic particle attraction that improves with use. Removable head for easy cleaning. Overall length of 13". Dust head measures 8 1/2" x 6 1/2".

POLISHMOP2 Large Duster. Removes dust without scratching surface. Long lasting dusting head features magnetic particle attraction that increases with use. Removable head for easy cleaning. Head measures 6 1/2" x 15". Overall length of 23".

POLISHMOP1

POLISHMOP2

Hand Cleaners

Medicated Hand Cleaners

Medicated Hand Cleaner. Quickly dissolves and removes stubborn dirt and stains while its antiseptic properties protect the skin.

WOD303CSA. Fresh orange scent. Case of (4) 4 1/2 lb. cans.

WOD503CSA. Case of (4) 4 1/2 lb. cans.

WOD303



WOD507



WOD1027



WOD1027HT



Hand Cleaner Dispensers

WOD507 Heavy-Duty Hand Cleaner Dispenser.

Convenient for wall mounting 4 1/2 lb. cans of hand cleaner.

WOD1027 Pump Style Hand Cleaner Dispenser.

Wall mounted, pump-style dispenser for WOD2025CSA or WOD2325CSA Hand Cleaners in 84 oz. bottles.

WOD1027HT Hand Cleaner Dispenser. Wall mounted, pump-style dispenser for WOD2025CSA or WOD2325CSA Hand Cleaners in 84 oz. bottles.

WOD623CSA

Pumice Hand Cleaners

Extra-strength pumice hand cleaner with antiseptic ingredient.

WOD423CSA. Fresh orange scent.

Case of (4) 4 1/2 lb. cans.

WOD623CSA. Case of (4) 4 1/2 lb. cans.

WOD1050CSA. Fresh orange scent.

Case of (4) 1-gallon bottles.

WOD2000



Water Activated Hand Cleaners

Soybean-based, water activated and concentrated formula with fibril scrubbers. Contains antiseptic ingredient and conditioners for maximum skin protection. Hand Cleaner offers the highest performance skin cleaning with fibril/pumice double scrubbing action.

WOD2025ACSA. Case of (4) 84-oz. bottles. Requires WOD1027 Pump Dispenser.

WOD2000ACSA. Same cleaner as WOD2025ACSA. Case of (48) 4 oz. bottles.

WOD2325ACSA. Case of (4) 84 oz. bottles. Requires WOD1027HT Pump Dispenser.

WOD2300ACSA. Same cleaner as WOD2325ACSA. Case of (48) 4 oz. bottles.

WOD5020



Hand and Shop Towels

WOD5020 Hand and Shop Towels.

Convenient to use hand towels for cleaning tools or hands free of oil and grease. Towels contain lanolin and rust preventatives. Shipped in multiples of six per case.

WOD6000 Paper Shop Towels. Durable absorbent towels easily handle a wide range of industrial cleaning, yet are soft enough for use on face and hands. Towels easily absorb liquids, lubricants and oils. Ideal for use with hand cleaners. Towels maintain strength, even when wet. Each individual towel measures 12.5" x 14.4" (317.5mm x 365.7mm). 336 towels total (6 packages of 56 towels each).

WOD6000



Fingernail Brush

WOD1000. Use with any "WOD" Series Hand Cleaner.



WOD1000

Synthetic Lubricant

ULUBE1 Synthetic Lubricant. Extend tool life with this easy to apply lubricant spray. Specially formulated for use with bearings and other rotating devices. Case of (12) 5.5 ounce cans.



ULUBE1

NSBT8A



NSBT160A



Anti-Seize Lubricant

Premium general purpose copper/graphite blend anti-seize compound, formulated to prevent seizing and galling at high temperatures (resistant to 1800°F). Lubricates and protects against corrosion.

Eases assembly and disassembly of metal parts while reducing friction and wear.

NSBT8A. 8 oz. bottle with applicator brush attached to cap.

NSBT160A. 16 oz. bottle with applicator brush attached to cap.

Oil Absorbents

DRY3 Double Tick Oil Mats. Absorbs oil, coolant, hydraulic fluid, diesel fuels, gasoline isopropanol, kerosene, nitric acid and MEK. Absorbs up to 25 times its weight in petroleum products. Use under vehicles and machinery, in storage areas and on work benches. Absorbency not affected by temperature change. Each mat measures 17" x 19" (431.8mm x 482.6mm). Package of three mats.

DRY6 Spill Absorbent. Absorbs paint, solvents and oil spills. Five times greater absorbency than clay products. Leaves minimal residue when used to pick-up paint. Case of six 3/4 lb. jugs.

DRY3



DRY6



Floor Soap / Cleaning

Floor Soap

SOAPP3 Powder Floor Cleaner. Dye-free and phosphate-free powder floor cleaner with fresh orange scent developed especially for automotive shops for daily maintenance of concrete floors to quickly solubilize oils and greases on contact. Super concentrated formula is designed to be environmentally safe for the work place and is free rinsing, leaving floors clean and film free. Biodegradable and septic safe. 20 lb. Pail.

Cleaning

SOAPL1A Heavy Duty Liquid Cleaner. Designed for the pressure washing of engines, vehicle undercarriage, driveways, heavy equipment, garage floors and exterior building surfaces. Highly recommended for manual floor cleaning or use in automatic floor scrubbing machines. Case of 4 (1 gallon) bottles.

Stock No.	SOAPL1A
Models Where Used	All SEPW Models
Specifications/Applications	5 gal. bucket available

SOAPP3



SOAPL1A



WARNING

- Do not use on face.
- Contact with face can irritate skin and eyes.
- Do not ingest.
- Ingestion can irritate mouth, throat, stomach, and skin.
- Read additional safety precautions on pages M1 to M4.



Shop Supplies Automotive Adhesives and Sealants

Automotive Adhesives

MMM8752 Rear Mirror Adhesive. Permanently bonds mirror bracket to windshield. Professional strength. (12) 0.2 fluid oz. tubes.

MMM8730 High Strength Threadlocker (Red). Keeps 3/8" and larger fasteners from loosening. Resists temperatures up to 600°. Heat required for disassembly. (12) 0.34 fluid oz. tubes.

MMM8731 Medium Strength Threadlocker (Blue). Keeps 1/4" to 1" fasteners from loosening. Resists temperatures up to 600°. Heat required for disassembly. (12) 0.34 fluid oz. tubes.

Automotive Sealants

MMM8700 Silicone Gasket. Gasket material for valve covers, oil pans and other engine and transmission applications. Flexible at -20°F to 600°F. Oxygen sensor safe. Low odor, oil resistant and non-corrosive. Meets OEM volatility specifications. (12) 3.0 fluid oz. tubes. Black.

MMM8704 Silicone Gasket. Gasket material for valve covers, oil pans and other engine and transmission applications. Flexible at -20°F to 600°F. Oxygen sensor safe. Low odor, oil resistant and non-corrosive. Meets OEM volatility specifications. (12) 3.0 fluid oz. tubes. Grey.

MMM8705 Silicone Sealant. General purpose sealant. Oxygen sensor safe. Low odor. (12) 3.0 fluid oz. tubes. Black.

MMM8706 Silicone Sealant. General purpose sealant. Oxygen sensor safe. Low odor. (12) 3.0 fluid oz. tubes. Clear.

MMM8740 Teflon Pipe Sealant. Seals threaded fittings. Prevents against corrosion and leakage. Repositionable for 48 hours. (12) 0.2 fluid oz. tubes.

Optional Items for GLUEGUN2KT and GLUEGUN3KT:

Glue Sticks. Bag of 24.

GLUEGUN2KT4 Glue sticks. For carton closing applications.

GLUEGUN2KT5 Glue sticks. For metal and plastic bonding applications.

GLUEGUN2KT6 Glue sticks. For wood working and general purpose applications.

Cordless Glue Gun Kits

GLUEGUN2 Features:

- Self-igniting
- Ignition View Window
- Gas flow cut-off should temperatures exceed 520°F (270°C)
- Lightweight, ergonomic design for comfort, control and ease of use
- Performance grip and trigger for accurate flow control
- Self-venting gas fill valve delivers 20-second refill time
- Cooled exhaust gas port and ventilated heat chamber

GLUEGUN2KT



GLUEGUN2KT Butane Cordless Glue Gun Kit. Includes 10 glue sticks plus: **GLUEGUN2 Butane Cordless Glue Gun.** Gun delivers a generous 225 watts (equivalent) to produce glue melt rates of up to 3.5 lbs./hr. (1.5 Kg./hr.) with only a four minute warm-up time. Fuel tank is stainless steel and holds enough fuel for two hours of continuous use. Fuel tank is tested to 100 bar, with a 40 bar release valve.

GLUEGUN2KT1 Diagonal Orifice Nozzle. 1.25" (30 mm)

GLUEGUN2KT2 Needle Orifice Nozzle. 1.25" (30mm)

GLUEGUN2KT3 Flat Orifice Nozzle. 1.25" (30mm)

GLUEGUN2KT7 Blow-molded Carrying Case.

GLUEGUN2KT8 Instruction sheet for GLUEGUN2.

GLUEGUN2KT9 Stand for GLUEGUN2.

GLUEGUN3KT Butane Compact Cordless Glue Gun Kit. Includes GLUEGUN3 Compact Cordless Glue Gun, GLUEGUN2KT1 thru GLUEGUN2KT3 Nozzles, 6 general purpose glue sticks and hinged wire stand.

GLUEGUN3 Butane Compact Cordless Glue Gun. Gun delivers glue melt rates of up to 2.5 lbs./hr. with only a four minute warm-up time. Fuel tank is stainless steel and holds enough fuel for up to 3 hours of continuous use. Quick 30-second refill time. Ignition view window easily confirms ignition. Cooled exhaust gas port and ventilated heat chamber. Performance grip and trigger for accurate flow control. Fuel tank is tested to 100 bar, with a 40 bar release valve.

Safety Equipment Ear and Face Protection

GA3100 GA3000A YA160A YA1160 YAPLUG50



Ear Protectors

GA3100 Ear Protectors (Headphone Style). Noise reduction rating of 31 dB. Cushioned headband and earpieces for comfortable and snug fit. Each earpiece adjusts up to 1 1/4" along the wire frame extending from the headband to easily fit a variety of sizes. Ear protectors weigh 1/4 lb.

GA3000A Ear Protectors (Headphone Style). 25 dB noise reduction rating. Cushioned head band and ear cups for extra comfort. Adjust at each earpiece for proper alignment. ABS plastic domes with PVC covered ear cushions. Approximate 1 lb. weight.

YA160A Ear Protectors (Ear Plug Style). 25 dB noise reduction rating. Cushioned earpieces for comfort and snug fit to keep out noise. Non-conductive. Only weigh .06 oz. Includes extra set of foam ear pieces and reusable plastic storage bag.

YA160A1 Replacement Ear Cushions. Replacement ear cushions for the YA160A Ear Protectors.

YA1160 Ear Protectors. Convenient, lightweight and comfortable. 27 dB noise reduction rating. Cushioned earpieces for comfort and snug fit to keep out noise. Only weigh .06 oz. Hi-viz orange color. Includes extra set of foam ear pieces and resealable plastic bag.

YA11601 Replacement Ear Cushions. Replacement ear cushions for the YA1160 Ear Protectors.

YAPLUG50 Disposable Ear Protectors. Ear plugs provide NRR of 27 dB as tested according to ANSI S3.19-1974. Shaped for comfort. High visibility color. Each pair is packaged in its own hard case. Plugs may be disposed after single use.

Face Shield

GA224B Face Shield. Adjustable, cushioned head band is removable and washable. Replaceable face shield measures 8" x 12" x 0.04" (203.2mm x 304.8mm x 1.02mm). Face shield provides improved impact resistance.

GA224B1 Replacement Shield. 9" x 15 1/2". Clear.

GA224B1G Replacement Shield. 9" x 15 1/2". Dark Green.

GA224B



YA127C



YA199



YA195



Respirators and Filters

YA127C Halfmask Respirator. Includes organic vapor cartridges and N95 Pre-Filters. Approved by NIOSH and meets OSHA regulations governing particulate respirators under 42 CFR 84. This respirator offers a large sealing surface and advanced yoke design for an excellent non-slip fit. Helps protect against organic vapors, dusts and mists when used in conjunction with YA1991 N95 Pre-Filter and YA1992 Organic Vapor Cartridge. Do not exceed maximum use concentrations established by regulatory standards.

YA127C9 Pre-filter and Filter Set. Includes plastic cover, YA1991 N95 Pre-Filter and YA1992 Organic Vapor Cartridge.

YA199 Full-Face Respirator. Includes organic vapor cartridges and N95 Pre-Filters. Respirator provides a comfortable fit with a durable silicone face piece, standard nose cup to prevent fogging, and its exceptional wide view anti-scratch lens. Helps protect against organic vapors, dusts and mists when used in conjunction with YA1991 N95 Pre-Filter and YA1992 Organic Vapor Cartridge. Do not exceed maximum use concentrations established by regulatory standards.

YA1991 N95 Pre-filter. 95% filter efficiency level. Effective against particulate aerosols free of oil. Includes 6 pair. Do not exceed maximum use concentrations established by regulatory standards.

YA1992 Organic Vapor Cartridge. Protects against organic vapors. Includes 1 pair. Do not exceed maximum use concentrations established by regulatory standards. Do not use with isocyanates.

YA195 Air Filtration Breathing System. Provides Grade "D" breathing air from common electrical air compressors while maintaining pressure for use of spray equipment, sanders and other air tools. Includes NIOSH approved full face respirator (YA199), filtration unit, 6-foot work line hose and nylon web belt.

Eye Protection Safety Equipment

Glass1, Glass9, Glass10 and Glass11 Series Safety Glasses feature a superior anti-fog coating. This special coating is permanently bonded to the lens. Coating also provides superior UV and anti-scratch protection while reducing attraction of dust and particles. Coating not available on mirror lens.

GLASS1R



Safety Glasses/Glass 1 Series

- Contemporary, lightweight unilens offers panoramic vision.
- Easy and economical lens replacement system.
- Adjustable lens inclination and temple length.
- Glasses comply with ANSI Z87.1-1989, CSA Z94.3-1992 and EN166 requirements.

GLASS1R Safety Glasses. Red frame with clear lens.

GLASS1BK Safety Glasses. Black frame with clear lens.

Safety Glasses/Glass 4, 5, and 6 Series

- Contemporary style with low profile.
- Anti-fog lens coating (not on mirror lens).
- Three-position temple adjustment.
- Stylish black frames are made of durable nylon.
- Lens provide 99.9% UV protection.
- Six-base lens curve and folded back lens design provides increased peripheral vision and protection.
- Glasses meet ANSI Z87.1-1989.

GLASS4A Safety Glasses. Black frames with clear XTR lens.

GLASS5A Safety Glasses. Black frames with Espresso XTR lens.

GLASS6A Safety Glasses. Black frames with mirror XTR lens.

GLASS6AAM Safety Glasses. Black frames with amber lens.

GLASS4A



GLASS5A



GLASS6A



Safety Glasses/Glass 7 Series

- Wraparound style eye protection with patented Toric WrapBack lens optic curve technology.
- Lightweight polycarbonate lenses give exceptional strength.
- Lenses are coated to provide maximum scratch and fog resistance.
- Case for glasses included.
- Glasses meet ANSI Z87.1-1989 and CSA Z94.3-1992 requirements.

GLASS7C Safety Glasses. Black frame with clear lens.

GLASS7C



Safety Glasses/Glass 9 and 10 Series

- Contemporary, sporty wrap around styling.
- Easy and economical patented lens replacement system.
- Adjustable temple length.
- Glasses comply with ANSI Z87.1-1989 requirements.

GLASS9BK Safety Glasses. Black frame with clear lens.

GLASS10BK Safety Glasses. Black frame with brown lens.

GLASS11BK Safety Glasses. Black frame with mirror lens.

GLASS9BK



GLASS10BK



Safety Glasses/Glass 12 and 13 Series

- Sleek, frameless design with contemporary styling and improved nosebridge.
- Five-position temple length adjustment.
- White Snap-on® logo on both temples.
- Frame is constructed from durable nylon.
- Lens provide 99.9% UV protection.
- Glasses provide excellent peripheral vision and protection.
- Glasses comply with ANSI Z87.1-1989 requirements.

GLASS12BKA Safety Glasses. Black ear pieces with clear lens.

GLASS13CPA Safety Glasses. Black ear pieces with brown lens.

GLASS12BKA



GLASS13CPA



Safety Glasses/Glass 16 Series

- Contemporary styling with white Snap-on® logo on right lens.
- Rugged metal frame with plastic ear piece.
- Spring hinge on ear pieces for extra comfort.
- Soft, self-positioning nose piece.
- Lens provide 99.9% UV protection.
- Includes side shields.
- Glasses comply with ANSI Z87.1-1989 requirements.

GLASS16BRC Safety Glasses. Copper frames with clear lens.

GLASS16BRG Safety Glasses. Copper frames with copper lens.

GLASS16BRC



Safety Glasses/Glass 20 Series

- Nose bridge features ultra-soft "fingers" that provide custom non-slip fit.
- Soft padded elastomer brow guard provides maximum comfort.
- Ventilation channel between frame and lens.
- Five-position temple length adjustment.
- Three-position tilt adjustment.
- White Snap-on® logo on temples.
- Lens provide 99.9% UV protection.
- Wrap around lens.
- Passes military Vo ballistic test regimen at 7 times impact velocity of ANSI and CSA.

• Complies with ANSI Z87.1, CSA Z94.3 and MIL-STD-662 standards.

GLASS20BK Safety Glasses. Black frames with clear lens.

GLASS20R Safety Glasses. Red frame with clear lens.

GLASS20BL Safety Glasses. Blue frame with clear lens.

GLASS20BK Safety Glasses. Black frame with amber lens.

GLASS20RM Safety Glasses. Red frame with mirror lens.

GLASS20RAC Safety Glasses. Black frame with mirror lens.

GLASS20BLM Safety Glasses. Blue frame with mirror lens.

GLASS20BKW Safety Glasses. Black frame with dark green (shade #5.0) lens.

GLASS20LENSW Replacement Lens. Dark green (shade #5.0) replacement lens for GLASS20BKW Safety Glasses.

GLASS20BK



GLASS20R



Protective Eyeshields

GLASSVIS Protective Eyeshields. Will fit over prescription glasses or can be worn alone. Wrap around side shields, impact resistant, anti-glare guard. Clear uncoated lens with black frames. Glasses comply with ANSI Z87.1, CSA Z94.3 and MIL-STD-662 standards.

GLASS1BOTG Protective Eyeshields. Single panoramic lens offers increased visibility. Protective lens coating resists fogging, scratching, static, and ultraviolet rays. Frames adjust both horizontally and vertically for comfort. Side impact protection. Universal nose bridge. Snap-on® logo on ear piece. Exceeds ANSI Z80.3 special purpose UV filtration requirements.

GLASSVIS



GLASS1BOTG



Safety Goggles

GAC1575B Dust/Impact Goggles. Plastic lenses conform to American National Safety Standards and OSHA requirements for High Mass and High Impact tests. Soft, perforated vent-style form fitting plastic frame. Meets or exceeds ANSI Z87.1-1989.

GOGGLE1 Protective Goggles. Features a durable molded frame with a soft and flexible elastomer that seals comfortably for a custom fit around nose, cheeks, and forehead. Quick adjust headband clips permit fast and easy fitting. Indirect ventilation system channels and directs airflow over the lens, which minimizes fogging and improves vision potential while providing superior splash and impact protection. Has Uvex 4C+™ lens coating that protects against fogging, scratches, and ultraviolet rays. Meets ANSI Z87.1-1989.

GOGGLE2ATOR Safety Goggles. Durable molded frame with a soft, flexible elastomer seals comfortably around face. Quick adjust headband clips. Indirect ventilation system directs air flow over the lens to minimize fogging. Quick and easy lens replacement. Features a superior anti-fogging coating. Coating also provides superior UV and anti-scratch protection while reducing attraction of dust and particles. Conforms to ANSI Z87.1-1989.

GAC1575B



GOGGLE2ATOR



Biker-Style Safety Goggles

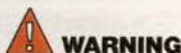
Biker-style goggles provide the peripheral vision of a spectacle with the safety of a goggle. Meets or exceeds ANSI Z87.1 1989 Standards. Fits naturally to the contour of the face to block out contaminants. Side vents increase airflow.

GAC1150 Safety Glasses. Smoked lens.

GAC1175 Safety Glasses. Clear lens.

GAC1100B Safety Glasses. Green tinted lens for acetylene torch work.

GAC1150



WARNING

- Do not use chrome or industrial finish hand tools with power drivers.
- Read additional safety precautions on pages M1 to M4.



*Important Words
About Safety
for Users and Bystanders*

Following these basic safety rules is a good start toward protecting yourself — and others in the vicinity — from injury while using tools.

Wear safety goggles
Use the right tool
Use the tool properly
Maintain the tool regularly
Keep tools away from children
Do not use tools on live electrical circuits unless specifically designed for such use
Read and follow instructions

	THIS SYMBOL INDICATES PROHIBITED ACTION		THIS SYMBOL INDICATES MANDATORY ACTION		THIS SYMBOL INDICATES A HAZARD ALERT
	DO NOT OVER-TORQUE NO PIPES OR LEVER EXTENSIONS		MANDATORY EAR PROTECTION		RED BACKGROUND – DANGER ORANGE BACKGROUND – WARNING YELLOW BACKGROUND – CAUTION
	NO HAMMERING		MANDATORY FACE SHIELD		VIBRATION HAZARD
	NO PRYING		MANDATORY MASK		RISK OF EXPLOSION
	DO NOT STRIKE HARD OBJECTS		MANDATORY RESPIRATOR		OVERHEAD/OVERLOAD HAZARD
	NO IMPACT/POWER DRIVE		MANDATORY PROTECTIVE CLOTHING		RISK OF ELECTRIC SHOCK
	DO NOT STEP IN OR ON DRAWERS		MANDATORY PROTECTIVE GLOVES		RISK OF FIRE
	DO NOT OPEN MULTIPLE DRAWERS		MANDATORY EYE PROTECTION		RISK OF ENTANGLEMENT
	DO NOT PULL TO MOVE		MUST READ INSTRUCTIONS BEFORE USE		
	KEEP CHILDREN AWAY				

Safety messages in this catalog use the guidelines of the American National Standard ANSI Z535.4 for Product Safety Signs and Labels and ANSI Z535.3 Criteria for Safety Symbols. Messages associated with specific products use a triangular hazard alert symbol, signal word (CAUTION, WARNING, DANGER) and how to avoid the hazard. Each message refers to pages (M1-M4) which provides additional safety symbols and three-part messages advising of:

- The hazard
- How to avoid the hazard
- The probable consequence of not avoiding the hazard

PLEASE READ AND FOLLOW these messages to avoid injury to yourself and bystanders.

Air Chucks, Tire Fillers



WARNING



- Tanks labeled NOT REFILLABLE can rupture if pressurized.
- Wear safety goggles. (User and bystanders)** Do not use air tank conversion kit with container labeled NOT REFILLABLE.
- Tank can rupture if over-pressurized.
- Wear safety goggles. (User and bystanders)** Do not exceed the lower of 160 psig or container rated pressure.
- A ruptured tank can cause injury.

AVR Battery Testers



WARNING



- Electrical equipment or rotating engine can cause flying particles.
- Wear safety goggles. (User and bystanders)** Flying particles can cause eye injury.
- Batteries produce explosive gases and can explode.
- Wear safety goggles. (User and bystanders)** Keep flames and sparks away from batteries.
- Battery explosion and ignited gases can cause injury.

Battery Chargers, Starting Units



WARNING



- Electrical equipment or rotating engine can cause flying particles.
- Wear safety shield. (User and bystanders)** Flying particles can cause eye injury.
- Sparks occur when connecting or disconnecting leads while charger is ON. **Charger must be OFF when connecting or disconnecting leads.**
- Sparks can cause explosion or fire.
- Batteries produce explosive gases and can explode.
- Wear safety shield. (User and bystanders)** Keep flames and sparks away from batteries.
- Battery explosion and ignited gases can cause injury.

Blow Guns



WARNING



- Blow guns create flying particles, noise, and pressure.
- Wear safety shield. (User and bystanders)** Do not direct air at yourself or bystanders.
- Wear hearing protection. (User and bystanders)**
- Keep out of reach of children.
- Vented:
 - Do not use if air supply is above 135psig.
 - Do not obstruct vents.
 - High pressure air blast can cause injury.
- Non-Vented:
 - Do not use if air supply is above 30psig.
 - Flying particles, noise and high pressure can cause injury.

Body Dollies



WARNING



- Dolly block can chip.
- Wear safety shield. (User and bystanders)** Do not strike dolly block with a hammer or use as a hammer.
- Flying chips can cause injury.

Brake Tools



WARNING



- Brake cylinder hones can fly apart if used outside cylinder.
- Wear safety goggles. (User and bystanders)** Operate only while hone is within cylinder.
- Flying parts can cause injury.

Compressors



WARNING



- Air from compressors may contain oil mist and other harmful materials for breathing. **Do not use air from this compressor as a breathing supply.** Oil and other impurities in breathing supply air can cause injury.
- Compressor systems contain air under pressure which can create a high pressure stream or ruptured vessel.
- Wear safety goggles. (User and bystanders)** Relieve pressure before servicing.
- Do not modify/repair/rework pressure vessel or change safety relief pressure setting.** A pressurized air stream or rupturing pressure vessel can cause injury.
- Moving components inside.
- Do not use without all guards in place.** Moving components can cause injury.
- High voltage will create an electrical shock.
- Disconnect all power before servicing.** High voltage can cause injury.

Electrical, Electronic Service

(pliers, cutters, mini-torch)



WARNING



- Broken tips or cut material can fly.
- Wear safety shield. (User and bystanders)** Flying material can cause injury.
- Material can cause sparks or flying particles when heated.
- Wear safety goggles. (User and bystanders)** Sparks and flying particles can cause injury.
- Butane will explode or burn when ignited. Do not store butane at a temperature above 120°.
- Hold Butane away from body and face.** Explosion or flames can cause injury.
- Electrical shock hazard.
- Do not use on live electrical circuits.** Electrical shock can cause injury.

Extractors



WARNING



- Drilling pilot holes, inserting extractors and using extractors can cause flying chips. Extractors can break if overloaded.
- Wear safety goggles. (User and bystanders)** For hand use only.
- Flying chips and broken tools can cause injury.

Fuel Management



WARNING



- Flammable liquid and fumes can ignite.
- Wear safety shield. (User and bystanders)** Pressurized flammable liquid; avoid ignition.
- Ignited liquid and fumes will cause injury.
- Accumulated fumes can ignite.
- Wear safety shield. (User and bystanders)** Use only in well ventilated area.
- Flames can cause injury.

Gear Head Torque Multipliers



WARNING

- Use of gear head torque multipliers for torque control may result in inaccurate torque application.
- For accurate control of torque use an Electrotork®, a Torqometer® or other measuring device located directly on the fastener.
- Limited accuracy of the torque ratio of a gear head torque multiplier may cause improper preload of the fastener if it is used for torque control.

Grinders, Grinding Wheels, Power Tool Accessories

(drill bits, wire brushes, grinding burrs, abrasive wheels, grinding wheels, valve grinders, valve grinding wheels)



WARNING



- Grinding causes flying particles. Power tool accessories can break.
- Wear safety goggles. (User and bystanders)** Do not operate without eyeshields, guards and holders in place.
- Do not use power tool accessories at speeds faster than their maximum rated RPM.** Flying particles and broken tools can cause injury.
- Wire bristles can break and fly off.
- Wear safety goggles. (User and bystanders)** Flying particles can cause injury.
- Force on the side of grinding wheels or discs can break them.
- Do not grind on the side of a grinding wheel or disc.** Broken grinding wheel or disc can cause injury.

Hand Tools



WARNING



- Chrome and industrial finish hand tools can break if overloaded or used for the wrong application.
- Wear safety goggles. (User and bystanders)** Do not use chrome or industrial finish hand tools with power drivers.
- Use only impact sockets and accessories with impact wrenches.
- Use only power sockets and accessories with power wrenches.
- Broken hand tools, sockets or accessories can cause injury.
- Electrical shock hazard.
- Do not use on live electrical circuits.** Electrical shock can cause injury.

Heat Gun



WARNING



- Heat gun and sandblaster create flying particles.
- Do not use near flammables.**
- Wear safety shield. (User and bystanders)** Flying particles can cause injury.

Impact Drivers



WARNING



- Impact drivers can cause tool breakage or flying objects.
- Wear safety goggles. (User and bystanders)** Flying objects can cause injury.
- Wear hearing protection. (User and bystanders)**

Knives



WARNING



- Blades are sharp and can cut. Blades can break causing flying objects.
- Wear safety goggles. (User and bystanders)** Do not pry or bend blade.
- Keep away from children.** Sharp edges and flying objects can cause injury.

Leak Detectors, Circuit Testers, Spark Plug Tools



WARNING



- Propane will explode or burn when ignited. Accumulated fumes can ignite.
- Do not expose propane to flames, sparks or other sources of ignition.**
- Use in well ventilated area.** Explosion or flames can cause injury.
- Propane fumes can cause breathing problems.
- Use in well ventilated area.** Breathing propane can cause injury.
- Electrical equipment or rotating engine can cause flying particles.
- Wear safety goggles. (User and bystanders)** Flying particles can cause injury.

Lift Equipment

(jacks, stands, hoists, ramps)



WARNING



- Vehicles supported by jacks are not stable. Improperly supported vehicle can fall. Inadequate support surface can cause jack to tip.

Do not work on vehicle supported by jack; use jack stands.

Position jack properly before lifting vehicle.

Use jacks only on hard, strong and level surface.

Unstable vehicle can fall and cause injury.

- Vehicle may tip if supported only on one jack stand. Rolling vehicle can cause jack stand to tip.

Use jack stands in pairs.

Chock wheels to prevent vehicle from rolling.

Tipping vehicle or jack stand can cause injury.

- Jack or jack stands can collapse if overloaded.

Do not exceed rated capacity of jack or jack stand.

Collapse of jack or jack stand can cause injury.

- Off center loading can cause car stands to tip.

Center car stands under all four tires before lowering vehicle.

Tipping of car stand can cause injury.

- Improperly installed lift can collapse.

Lifts must be installed by experienced installer.

Collapsed lift can cause injury.

- Ramp and Hoist can accidentally lower. Inadequate hoist capacity can cause failure under load.

Properly position the leveling and safety legs to support the ramp.

Use ramp only with hoist having rated capacity or greater to lift ramp and vehicle.

Accidental lowering or failure of the hoist can cause injury.

- Ramp can break if overloaded. People in the vicinity can be hit by a moving ramp.

Do not exceed rated load.

Do not raise or lower ramp unless area is clear.

Broken ramp or contact with a moving ramp can cause injury.

- Raised vehicles can cause falling particles.

Wear safety goggles. (User and bystanders)

Falling particles can cause injury.

Lighting



WARNING



- Electrical shock can result from absence of grounding prong.

Do not remove or by-pass the grounding prong in any electrical plug.

Disconnect power before servicing.

Electrical shock can cause injury.

Nut Splitters



WARNING



- Use of impact wrench can cause nut splitter to break.

Wear safety goggles. (User and bystanders)

Do not use with impact wrench.

Broken tools can cause injury.

Plastic Handled Tools



WARNING



- Plastic handles do not protect from electrical shock.

Do not use on live electrical circuits.

Electrical shock can cause injury.

Pliers/Cutters



WARNING



- Broken tips or cut material can fly.

Wear safety goggles. (User and bystanders)

Flying material can cause injury.

Power Tools (impact wrenches, ratchets, hammers, sanders, grinders)

WARNING



- Power tools can cause flying particles.

Wear safety goggles. (User and bystanders)

Flying particles can cause injury.

- Power tools generate noise.

Wear hearing protection. (User and bystanders)

Prolonged exposure to noise can cause hearing loss.

- Power tools vibrate.

Avoid prolonged exposure to vibration.

Prolonged exposure to vibration can cause injury.

- Improper use of power tools and accessories can cause broken tools.

Do not use without all guards in place.

Use accessories rated at tool RPM or higher.

Read and follow instructions before using power tools.

Broken tools can cause injury.

- Some dust created by sanding, grinding and drilling activities contains chemicals known to cause cancer, birth defects and other reproductive harm.

Wear dust mask.

Pressure Gauge Sets

WARNING



- Pressurized equipment and materials under pressure can break.

Wear safety shield. (User and bystander)

Broken parts can cause injury.

- Accumulated fumes can ignite.

Wear protective clothing.

Use only in well ventilated area.

Flames can cause injury.

- Propane flames can cause breathing problems.

Wear protective mask.

Use in well ventilated area.

Breathing propane can cause injury.

- Gasoline fumes are explosive.

Wear protective clothing.

Do not expose gasoline to flames, sparks or other sources of ignition.

Explosion and flames can cause injury.

Pressure Equipment Systems

(air conditioning, cooling, brake, sandblaster, parts washer, lift equipment, nut splitters, compressors, chucks, tire filler, air conditioning, fuel management)

WARNING



- Pressurized systems can leak.

Wear safety shield. (User and bystander)

A pressurized leak can cause injury.

- Pressurized air or fluid stream can create flying particles and can penetrate body.

Wear safety shield and protective clothing.

Do not direct air or fluid stream at body.

Flying particles, air or fluid entering the body can cause injury.

- Pressurized air or fluid stream can create dust.

Wear protective mask. (User and bystander)

Use in a well ventilated area.

Inhaling dust can cause injury.

- Tanks can burst if over-pressurized.

Do not pressurize tank higher than maximum on the gauge.

Tank breakage can cause injury.

- Over-pressurized system can burst or solvents can accidentally ignite.

Do not use washer without fusible link or safety valve intact.

Do not expose solvents to flames, sparks or other sources of ignition.

Rupturing pressure system or solvent flames can cause injury.

- Improper servicing or maintenance can cause expelled refrigerant or oil separator bowl to fracture and explode.

Do not service system while under pressure or vacuum - follow maintenance procedures.

Expelled refrigerant or fluid, fracture and subsequent explosion of bowl can cause injury.

Prybars

WARNING



- Prying can cause flying chips. Chipped or cracked prybars can cause flying chips. Prybars can chip if struck.

Wear safety goggles. (User and bystanders)

Do not use pipe or lever extension.

Do not use a prybar if chipped or cracked.

Do not use a prybar as a punch or hammer.

Flying chips can cause injury.

Pullers, Presses

WARNING



- Puller parts under stress can break.

Wear safety goggles. (User and bystanders)

Broken parts can cause injury.

Ratchets

WARNING



- Ratchet mechanism may slip or break if dirty. Mismatched or partially worn parts can cause ratchet to slip or break.

Frequently inspect, clean and lubricate all non-sealed ratchet mechanisms with light oil.

Do not immerse sealed ratchet in fluids.

Do not replace worn parts individually, use entire contents of the service kit.

Ratchets that slip or break can cause injury.

Riveting, Sanding, Door Tools

WARNING



Socket Usage

Select the proper type of socket for the application.

- **Hand Sockets** - All chrome plated sockets and black finished sockets identified as hand sockets are for hand use only.
- **Power Sockets** - Sockets designed and intended for use with power nut runners; do not use with impact drivers.
- **Impact Sockets** - Sockets designed for durability when used with impact drivers; use only impact sockets with impact drivers.

Sockets, Axle Nut

WARNING

- Axle nut and spanner sockets can break if used on impact drivers.
- **Wear safety goggles. (Users and bystanders)** Do not use an axle nut or spanner socket with impact drivers.
- *Broken tools can cause injury.*

Sockets, Power

WARNING

- Power sockets or accessories can break if used on impact drivers.
- **Wear safety goggles. (Users and bystanders)** Do not use power sockets or accessories with impact drivers.
- *Broken tools can cause injury.*
- Flexible sockets and swivel joint tools rotate under power during use.
- **Wear safety goggles. (Users and bystanders)** Do not hold flexible sockets and swivel joint tools during use.
- *Rotating power tools can cause injury.*

Spray Guns

WARNING

- Spray guns create flying particles.
- **Wear safety goggles and breathing apparatus. (Users and bystanders)** Flying particles can cause injury.

Storage Units

WARNING

- Storage units can tip or strike you.
- **Do not open more than one loaded drawer at a time.**
- **Keep children away.**
- **Close lid and lock drawers and doors before moving.**
- **Apply brakes on locking casters when not moving unit.**
- **Do not step in or on drawers.**
- **Secure units together with fasteners.**
- **Read and follow instruction manual.**
- *Tipping of storage unit or unit striking you can cause injury.*
- Units edges can cut or pinch.
- **Do not pull; push to move.**
- **Wear gloves when lifting by edges.**
- **Keep feet and fingers clear of edges when stacking, hanging or moving units.**
- *Unit edges can cause injury.*

Striking and Struck Tools, Punches/Chisels

WARNING

- Striking and struck tools can break or chip. Chipped or mushroomed punch and chisel ends or metal weakened by improper grinding can fragment.
- Oversized hammer can chip the punch or chisel.
- **Wear safety goggles. (Users and bystanders)** Do not use punch or chisel having mushroomed ends; dress edges or mushroomed ends to original shape with a hand file.
- **Hammer head diameter should be approximately 3/8" larger than head of punch or chisel.**
- *Flying objects can cause injury.*
- Steel punches and chisels can cause sparks during use.
- **Do not use near flammable substance.** Flammable substances can ignite causing injury.

Hammers

WARNING

- Hammers can cause flying chips. Chipped, mushroomed or cracked hammers can cause flying chips. Glancing blows can cause flying chips. Striking hard surface can cause flying chips. Body hammers can chip or break if struck against hard surfaces.
- **Wear safety goggles. (Users and bystanders)** Do not use chipped, mushroomed or cracked hammers.
- **Strike squarely and avoid glancing blows.** Do not strike other hammers or similar hard surfaces.
- **Use body hammers only for striking automotive type sheet metal; do not strike hard surfaces.**
- *Flying chips can cause injury.*
- Steel hammers can cause sparks during use.
- **Do not use near flammable substance.** Flammable substances can ignite causing injury.
- COMPOTHANE® or urethane hammers can rupture or ignite if exposed to liquid oxygen.
- **Do not use COMPOTHANE® or urethane hammers near liquid oxygen.**
- *Ruptured and/or ignited COMPOTHANE® or urethane can cause injury.*

Threading

WARNING

- Threading and rethreading tools can cause flying chips.
- **Wear safety goggles. (Users and bystanders)** Flying chips can cause injury.

Torque Testers

WARNING

- Calibration weights can cause tester and its base to tip.
- **Wear safety goggles. (Users and bystanders)** Counterbalance or anchor mounting base. Tipping base can cause injury.

Torque Wrenches

WARNING

- Overtorquing can cause breakage. Wrench can break while breaking fasteners loose. Force against flex stops on flex head torque wrenches can cause head breakage. An out of calibration torque wrench can cause part or tool breakage.
- **Wear safety goggles. (Users and bystanders)** Do not exceed rated torque.
- **Do not use a torque wrench to break fasteners loose.**
- **Do not force head of flex head torque wrenches against stops.**
- **Periodic recalibration is necessary to maintain accuracy.**
- *Broken tools can cause injury.*

Unibody and Frame Straightening Equipment

WARNING

- Eyebolt can break if highly stressed.
- **Wear safety goggles. (Users and bystanders)** Do not use eyebolt of G-clamp for pulling; use frame holes only.
- *Broken tools can cause injury.*

Welders, Cutters

DANGER

- Electric welding or plasma cutting cause ultra violet rays and weld spatter.
- **Bystanders will be exposed to ultraviolet rays and weld spatter.**
- **Wear welding helmet with appropriate shade lens while using electric welders or plasma cutters.**
- **Do not allow bystanders while welding or cutting.**
- **Wear safety shield and protective clothing.**
- **Read and follow instruction manual.** Ultraviolet rays will burn eyes; weld spatter can cause injury.

Welding Accessories

WARNING

- Acetylene gas does not burn safely with YA1500 or YA1550 torches.
- **Do not use YA1500 or YA1550A torches with acetylene gas.**
- *Uncontrolled burning can cause injury.*
- Materials can cause sparks or flying metal when heated.
- **Wear safety shield and protective clothing.** Sparks and flying metal can cause injury.

Wheel Alignment

WARNING

- WA171D can break or slip if over-torqued.
- **Wear safety goggles. (Users and bystanders)** Loosen suspension bolts before using WA171D; do not over-torque.
- *Breakage or slippage of tool can cause injury.*
- WA92 can break or spring disengage if torqued over 30 lb. ft.
- **Do not torque WA92 coil spring compressor over 30 lb. ft.**
- *Broken tool or disengaged spring can cause injury.*

Wheel Balancers

WARNING

- Wheel balancers can cause flying particles.
- **Wear safety goggles. (Users and bystanders)** Flying particles can cause injury.

Wrenches

WARNING

- Excess force can cause crowfoot or flare nut wrench slippage.
- **Do not over-torque, no pipes or lever extensions.**
- **Use only moderate force on crowfoot and flare nut wrenches.**
- *Broken or slipping wrenches can cause injury.*
- Slimline wrenches can break if overloaded.
- **Wear safety goggles. (Users and bystanders)** Broken wrench jaw can cause injury.

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Conversion Chart

Showing Millimeter Sizes, Fractional and Decimal Inch Sizes, and Drill Number Sizes

Note: To convert from inches to millimeters, multiply by 25.4; to convert from millimeters to inches, multiply by 0.03937.

M	DE	F	DN	M	DE	F	DN	M	DE	F	DN	M	DE	F	DN	M	DE	F	DN
0.10	0.0039	—	—	1.75	0.0689	—	—	—	0.1570	—	22	6.80	0.2677	—	—	10.72	0.4219	27/64	—
0.15	0.0059	—	—	—	0.7000	—	50	4.0	0.1575	—	—	6.90	0.2716	—	—	11.00	0.4330	—	—
0.20	0.0079	—	—	1.80	0.0709	—	—	—	0.1590	—	21	—	0.2720	—	I	11.11	0.4375	7/16	—
0.25	0.0098	—	—	1.85	0.0728	—	—	—	0.1610	—	20	7.00	0.2756	—	—	11.50	0.4528	—	—
0.30	0.0118	—	—	—	0.0730	—	49	4.1	0.1614	—	—	—	0.2770	—	J	11.51	0.4531	29/64	—
—	0.0135	—	80	1.90	0.0748	—	—	4.2	0.1654	—	—	7.10	0.2795	—	—	11.91	0.4687	15/32	—
0.35	0.0138	—	—	—	0.0760	—	48	—	0.1660	—	19	—	0.2811	—	K	12.00	0.4724	—	—
—	0.0145	—	79	1.95	0.0767	—	—	4.25	0.1673	—	—	7.14	0.2812	9/32	—	12.30	0.4843	31/64	—
0.39	0.0156	1/64	—	1.98	0.0781	5/64	—	4.3	0.1693	—	—	7.20	0.2835	—	—	12.50	0.4921	—	—
0.40	0.0157	—	—	—	0.0785	—	47	—	0.1695	—	18	7.25	0.2854	—	—	12.70	0.5000	1/2	—
—	0.0160	—	78	2.00	0.0787	—	—	4.37	0.1719	11/64	—	7.30	0.2874	—	—	13.00	0.5118	—	—
0.45	0.0177	—	—	2.05	0.0807	—	—	—	0.1730	—	17	—	0.2900	—	L	13.10	0.5156	33/64	—
—	0.0180	—	77	—	0.0810	—	46	4.40	0.1732	—	—	7.40	0.2913	—	—	13.49	0.5312	17/32	—
0.50	0.0197	—	—	—	0.0820	—	45	—	0.1770	—	16	—	0.2950	—	M	13.50	0.5315	—	—
—	0.0200	—	76	2.10	0.0827	—	—	4.50	0.1771	—	—	7.50	0.2953	—	—	13.89	0.5469	35/64	—
—	0.0210	—	75	2.15	0.0846	—	—	—	0.1800	—	15	7.54	0.2968	19/64	—	14.00	0.5512	—	—
0.55	0.0217	—	—	—	0.0860	—	44	4.60	0.1811	—	—	7.60	0.2992	—	—	14.29	0.5625	9/16	—
—	0.0225	—	74	2.20	0.0866	—	—	—	0.1820	—	14	—	0.3020	—	N	14.50	0.5709	—	—
0.60	0.0236	—	—	2.25	0.0885	—	—	4.70	0.1850	—	13	7.70	0.3031	—	—	14.68	0.5781	37/64	—
—	0.0240	—	73	—	0.0890	—	43	4.75	0.1870	—	—	7.75	0.3051	—	—	15.00	0.5906	—	—
—	0.0250	—	72	2.30	0.0905	—	—	4.76	0.1875	3/16	—	7.80	0.3071	—	—	15.08	0.5937	19/32	—
0.65	0.0256	—	—	2.35	0.0925	—	—	4.80	0.1890	—	12	7.90	0.3110	—	—	15.48	0.6094	39/64	—
—	0.0260	—	71	—	0.0935	—	42	—	0.1910	—	11	7.94	0.3125	5/16	—	15.50	0.6102	—	—
—	0.0280	—	70	2.38	0.0937	3/32	—	4.90	0.1929	—	—	8.00	0.3150	—	—	15.88	0.6250	5/8	—
0.70	0.0276	—	—	2.40	0.0945	—	—	—	0.1935	—	10	—	0.3160	—	O	16.00	0.6299	—	—
—	0.0292	—	69	—	0.0960	—	41	—	0.1960	—	9	8.10	0.3189	—	—	16.27	0.6406	41/64	—
0.75	0.0295	—	—	2.45	0.0964	—	—	5.00	0.1968	—	—	8.20	0.3228	—	—	16.50	0.6496	—	—
—	0.0310	—	68	—	0.0980	—	40	—	0.1990	—	8	—	0.3230	—	P	16.67	0.6562	21/32	—
0.79	0.0312	1/32	—	2.50	0.0984	—	—	5.10	0.2008	—	—	8.25	0.3248	—	—	17.00	0.6693	—	—
0.80	0.0315	—	—	—	0.0995	—	39	—	0.2010	—	7	8.30	0.3268	—	—	17.06	0.6719	43/64	—
—	0.0320	—	67	—	0.1015	—	38	5.16	0.2031	13/64	—	8.33	0.3281	21/64	—	17.46	0.6875	11/16	—
—	0.0330	—	66	2.60	0.1024	—	—	—	0.2040	—	6	8.40	0.3307	—	—	17.50	0.6890	—	—
0.85	0.0335	—	—	—	0.1040	—	37	5.20	0.2047	—	—	—	0.3320	—	Q	17.86	0.7031	45/64	—
—	0.0350	—	65	2.70	0.1063	—	—	—	0.2055	—	5	8.50	0.3346	—	—	18.00	0.7087	—	—
0.90	0.0354	—	—	—	0.1065	—	36	5.25	0.2067	—	—	8.60	0.3386	—	—	18.26	0.7187	23/32	—
—	0.0360	—	64	2.75	0.1082	—	—	5.30	0.2086	—	—	—	0.3390	—	R	18.50	0.7283	—	—
—	0.0370	—	63	2.78	0.1094	7/64	—	—	0.2090	—	4	8.70	0.3425	—	—	18.65	0.7344	47/64	—
0.95	0.0374	—	—	—	0.1100	—	35	5.40	0.2126	—	—	8.73	0.3437	11/32	—	19.00	0.7480	—	—
—	0.0380	—	62	2.80	0.1102	—	—	—	0.2130	—	3	8.75	0.3445	—	—	19.05	0.7500	3/4	—
—	0.0390	—	61	—	0.1110	—	34	5.50	0.2165	—	—	8.80	0.3465	—	—	19.45	0.7656	49/64	—
1.00	0.0394	—	—	—	0.1130	—	33	5.56	0.2187	7/32	—	—	0.3480	—	S	19.50	0.7677	—	—
—	0.0400	—	60	2.90	0.1141	—	—	5.60	0.2205	—	—	8.90	0.3504	—	—	19.84	0.7812	25/32	—
—	0.0410	—	59	—	0.1160	—	32	—	0.2210	—	2	9.00	0.3543	—	—	20.00	0.7874	—	—
1.05	0.0413	—	—	3.00	0.1181	—	—	5.70	0.2244	—	—	—	0.3580	—	T	20.24	0.7969	51/64	—
—	0.0420	—	58	—	0.1200	—	31	5.75	0.2263	—	—	9.10	0.3583	—	—	20.50	0.8071	—	—
—	0.0430	—	57	3.10	0.1220	—	—	—	0.2280	—	1	9.13	0.3594	23/64	—	20.64	0.8125	13/16	—
1.10	0.0433	—	—	3.18	0.1250	1/8	—	5.80	0.2283	—	—	9.20	0.3622	—	—	21.00	0.8268	—	—
1.15	0.0452	—	—	3.20	0.1260	—	—	5.90	0.2323	—	—	9.25	0.3641	—	—	21.03	0.8281	53/64	—
—	0.0465	—	56	3.25	0.1279	—	—	—	0.2340	—	A	9.30	0.3661	—	—	21.43	0.8437	27/32	—
1.19	0.0469	3/64	—	—	0.1285	—	30	5.95	0.2344	15/64	—	—	0.3680	—	U	21.50	0.8465	—	—
1.20	0.0472	—	—	3.30	0.1299	—	—	6.00	0.2362	—	—	9.40	0.3701	—	—	21.83	0.8594	55/64	—
1.25	0.0492	—	—	3.40	0.1338	—	—	—	0.2380	—	B	9.50	0.3740	—	—	22.00	0.8661	—	—
1.30	0.0512	—	—	—	0.1360	—	29	6.10	0.2401	—	—	9.53	0.3750	3/8	—	22.23	0.8750	7/8	—
—	0.0520	—	55	3.50	0.1378	—	—	—	0.2420	—	C	—	0.3770	—	V	22.50	0.8858	—	—
1.35	0.0531	—	—	—	0.1405	—	28	6.20	0.2441	—	—	9.60	0.3780	—	—	22.62	0.8906	57/64	—
—	0.0550	—	54	3.57	0.1406	9/64	—	6.25	0.2460	—	D	9.70	0.3819	—	—	23.00	0.9055	—	—
1.40	0.0551	—	—	3.60	0.1417	—	—	6.30	0.2480	—	—	9.75	0.3838	—	—	23.20	0.9062	29/32	—
1.45	0.0570	—	—	—	0.1440	—	27	6.35	0.2500	1/4	E	9.80	0.3858	—	—	23.42	0.9219	59/64	—
1.50	0.0591	—	—	3.70	0.1457	—	—	6.40	0.2520	—	—	—	0.3860	—	W	23.50	0.9252	—	—
—	0.0595	—	53	—	0.1470	—	26	6.50	0.2559	—	—	9.90	0.3898	—	—	23.81	0.9375	15/16	—
1.55	0.0610	—	—	3.75	0.1476	—	—	—	0.2570	—	F	9.92	0.3906	25/64	—	24.00	0.9449	—	—
1.59	0.0625	1/16	—	—	0.1495	—	25	6.60	0.2598	—	—	10.00	0.3937	—	—	24.21	0.9531	61/64	—
1.60	0.0629	—	—	3.80	0.1496	—	—	—	0.2610	—	G	—	0.3970	—	X	24.50	0.9646	—	—
—	0.0635	—	52	—	0.1520	—	24	6.70	0.2638	—	—	—	0.4040	—	Y	24.61	0.9687	31/32	—
1.65	0.0649	—	—	3.90	0.1535	—	—	6.75	0.2657	17/64	—	10.32	0.4062	13/32	—	25.00	0.9843	—	—
1.70	0.0669	—	—	—	0.1540	—	23	6.75	0.2657	—	—	—	0.4130	—	Z	25.03	0.9844	63/64	—
—	0.0670	—	51	3.97	0.1562	5/32	—	—	0.2660	—	H	10.50	0.4134	—	—	25.40	1.0000	1	—

M = Millimeters, DE = Decimal Equivalents, F = Fractional, DN = Drill Number/Letter

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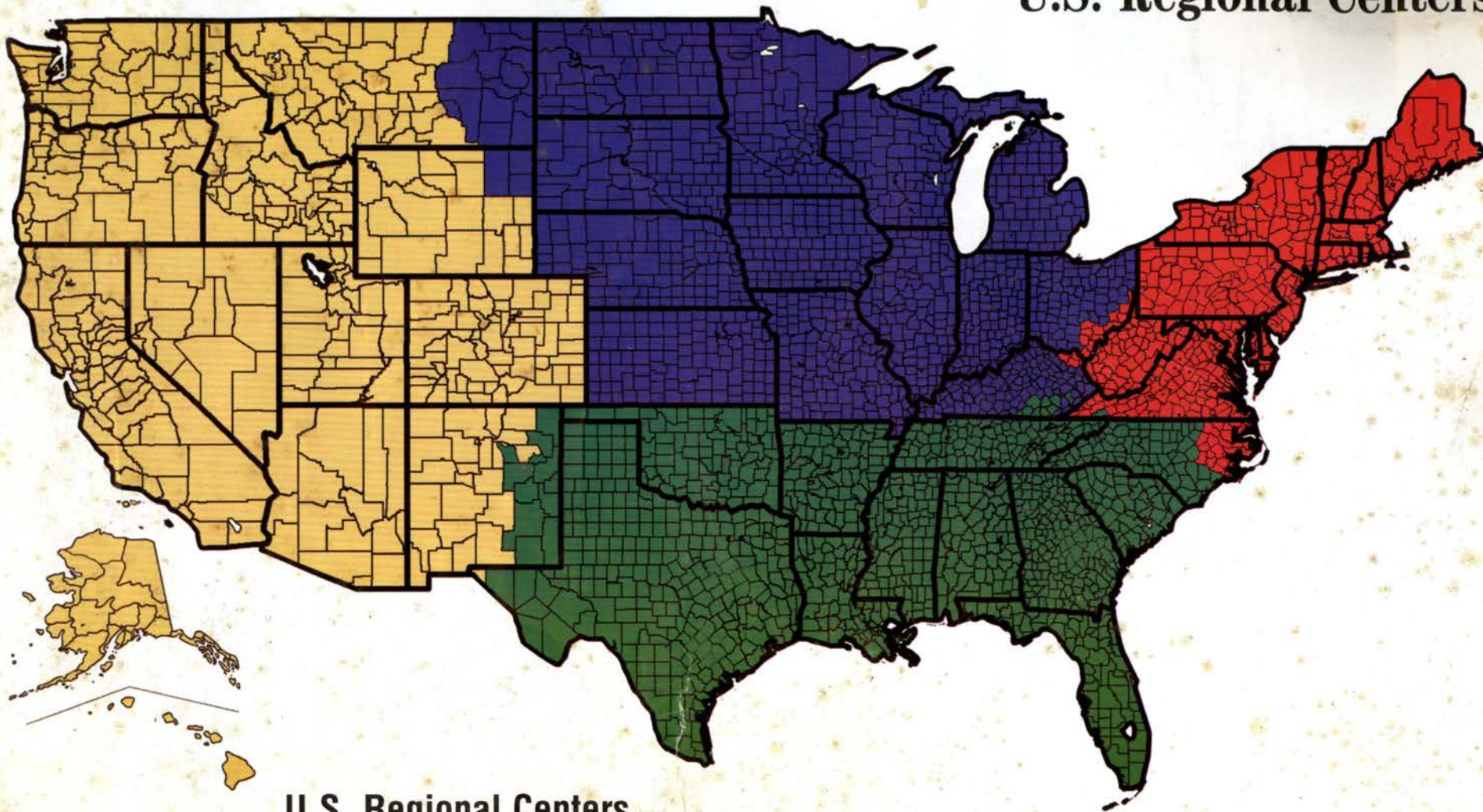
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